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CONTINUING "THE ELEMENTARY SCHOOL TEACHER"

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EDUCATIONAL NEWS AND EDITORIAL COMMENT

Editorial Announcement

Subscribers to this *Journal* have doubtless noted that the number of pages in the last two issues has been increased to eighty. The first numbers of this volume were somewhat larger than has been customary in years past. We are now in a position to announce that this enlargement will be continued without interruption in later issues of the *Journal*. The editors of the *Journal* have found it necessary to restrict very greatly the number of articles in years past and have looked forward to the development of the *Journal* to the point where it would be possible to make the enlargement which now has been accomplished. It is a matter of special satisfaction to them that this enlargement could be made in spite of the recent advance in the cost of paper. No change whatsoever will be made in the subscription price of the *Journal* because of the enlargement. A reorganization has, however, been made in the editorial management of the *Journal*, and a closer relation has been established between this publication and the other publications of the School of Education of the University of Chicago. Full announcements on these matters will be found on the second cover page of this issue and on the first page following the reading matter.

Special attention is drawn to the fact that the date of appearance of the *Elementary School Journal* will be changed after this issue.

Hereafter the *Journal* will appear on the fifteenth of the month instead of on the first. This change makes it possible to unite the news notes and reviews somewhat more closely with similar departments published in the *School Review*. The *Review* has dealt primarily with problems of secondary education. It has always contained a certain number of general educational articles, and its reviews have at times extended beyond the field of secondary education.

The two journals together will expand somewhat their reviewing work. It is hoped that practically all of the leading educational books will now be commented on in one or the other of the journals. The *Elementary School Journal* will, as in the past, cover as fully as possible all the special literature of elementary education. It will divide the field of general education with the *School Review*, repeating only those general reviews which are so important that every subscriber of both journals should come in contact with the book under consideration. In the same way there will be relatively little change in the character of the material published in this department of the *Journal*, but the news notes in this *Journal* will be supplemented by those published in the *School Review*. Finally, the monographs published under the joint supervision of the two journals will contain longer papers which are too bulky for the journals themselves.

It is hardly necessary at this time to make any special statement about the policy of the journals. The articles which find place in their pages are predominantly of the type which may be defined as scientific articles. The news notes and reviews aim to deal with general movements rather than with individuals. It is believed that the history of both of the journals makes it clear that there is a place for publications of this type. The editors have undertaken a special campaign for the promotion of those movements which are represented by the journals, and invite co-operation in the form of scientific articles, news notes, and suggestions for improvement. Especially is it desired that every experiment in elementary-school work which is producing results, either in the change of the course of study or in the organization of elementary education, shall be recorded as fully as possible in

this *Journal*. The editors will appreciate, therefore, correspondence which will bring their attention to movements which they ought to report, and they will gladly publish communications having to do with any of the matters that are of interest to elementary-school officers.

Colonel Parker

On December 9 a bronze bust of Colonel Francis Wayland Parker was presented to the University of Chicago by his former pupils and associates and was unveiled in its place in Blaine Hall. The afternoon of that day was devoted to suitable exercises connected with the presentation. At twelve o'clock the Francis W. Parker Club met for its annual luncheon, the president of the club, Mr. H. W. Sumner, presiding. At the close of the luncheon brief reminiscent addresses were made by various members of the club.

Following this there was a series of addresses by members of the University and by Judge C. S. Cutting, long associated with Colonel Parker as president of the board of trustees of the Cook County Normal School. At these exercises President Judson of the University presided. At the unveiling of the bust Mr. Lorado Taft spoke of the sculptor, Charles J. Mulligan, who executed the bust, Mr. Arthur J. Mason spoke for the donors, and President Judson received the bust.

The occasion was made significant by an emphasis in all the addresses on the great and vital changes which have been realized in school organization since Colonel Parker began with others of his generation to combat formalism. The methods of school discipline have been changed in a way that recognizes the freedom and intelligence of pupils. The course of study has been enormously expanded, and the social studies have been more fully recognized. The systematic training of teachers has been promoted, not only in normal schools, but in college and university departments of education which have now become well-nigh universal. The influence of Colonel Parker in bringing about these changes was large. He was not a voluminous writer, but he inspired in the schools over which he presided a generation of workers who have carried out in detail the ideas which he vigorously defended. The

deep impression which he made on people was evidenced in all the addresses made, and the lasting effects of the reforms for which he worked were traced in many of the conditions which now pass without special comment because they have come, since his time, to be commonplace.

Junior High Schools

The following comment by the *Press*, of St. Paul, Minnesota, is significant, not merely for the news which it contains, but also for the definition which it attempts of a junior high school:

Commissioner Wunderlich and Superintendent Hartwell, of the department of education, are considering introducing the junior high-school system in St. Paul.

The junior high school is somewhat similar to the modern high school with the exception that it takes pupils from the sixth grade instead of from the eighth grade. It is usually followed by a senior high-school course of three years, thus giving six years of high-school work and six years of grade work. The time division has earned it the name of the "6–6" plan.

Advocates of the junior high-school plan point out that it eliminates the daily repetition of drill in rudiments which have been previously mastered. Boys and girls, wasting more or less time in seventh and eighth grades, begin concentration.

The courses of study are selective, making a natural grouping of adolescents with similar inclinations and uniform mentality. New material is brought before the child when he naturally is enthusiastic and at his period of greatest receptibility. At the same time he comes in contact with better organization and superior equipment.

A more elastic and varied curriculum is offered the pupils. Instead of following the limited, narrow course of the grades, the pupil can follow his natural inclinations. Departmental instruction, impossible in the grades, is introduced.

One of the greatest advantages, and one that would apply peculiarly in St. Paul, is that a junior high school would bring an opportunity of advanced school nearer home. The school does not cost as much as a high school, and can be conducted economically on a much smaller scale. Districts at a distance from the present high school particularly would be benefited. Incidentally it would relieve congestion at both grade and high schools.

The school, by offering specialization in vocational work, would be vitally culminal to those unable to continue through high school and, at the same time, with more academic work than is offered by grade schools, is vitally basal as a starting-point for higher education.

The last argument, and another strong one in St. Paul, is that the junior high-school system tends to keep children in school longer. The eighth-grade-high-school artificial barrier is torn down and the progress toward high schools

is smooth and natural. The boy who normally would leave the duller studies of the eighth grade gladly finds himself concentrating in studies interesting and attractive.

Popular Support for Such Schools

The following clipping from the *Brooklyn Eagle* contributes another to the many evidences which have been presented in this *Journal* of the fact that the intermediate school, or junior high school, appeals strongly to the imagination of the community. Few educational movements have been more popular than this.

A committee of one hundred is being organized in the Sunset Park section of South Brooklyn, in order to secure proper educational facilities in that district, and it will meet at the Public Library, Fourth Avenue and Fifty-first Street, Monday evening, December 4, to complete its organization. Through their various civic associations, these men have called the attention of the Board of Education to the fact that the needed facilities for a proper training of the boys and girls of their neighborhood should be given to the Dewey School, No. 136, Fourth Avenue and Fortieth Street. The committee wants an intermediate school, and suggests the enlargement of No. 136. The city now owns a large plot of ground at the rear of the school, which was acquired several years ago, and plans for an addition have been made.

The school is near the Bush Terminal, where there are hundreds of trades and offices, and the committee argues that the children of the neighborhood should be prepared to take their places in these enterprises.

Principal Warren M. Van Name advocates the organization of a school similar to the junior high school of Rochester, in which there is an academic course for those who will go to high school, a commercial course for those who will go into business, an industrial course for those who will go into the trades, and a homemaking course for girls interested in domestic economics. He says that such a school would retain the boys and girls of the Sunset Park section until graduation, and would fit them either for higher education or for life better than anything else they have at present.

Not Industrial Schools

The friends of the junior high school must be on guard against a misinterpretation which is likely to hamper this institution seriously. It is not an industrial school. To be sure, it does, and undoubtedly should, offer prevocational courses, and may, with propriety offer certain industrial courses. The intermediate school is a school for all kinds of pupils. It is quite as important that those who are going on to the senior high school find appropriate work in this school as that the new vocational courses be developed.

The following item from Hastings, Nebraska, is given, first, because it illustrates the danger referred to above and, secondly, because it gives incidentally an account of a type of building combination which will bring the new school into close relation with the older high school:

The industrial arts are to be emphasized in the planning of the proposed $125,000 junior high school, according to members of the board of education seen today. An auditorium, to be used by the students of both the junior and the senior high schools, is a feature that is certain to be included in the plans of the new building.

The board has been unanimous from the start in the opinion that the present heating plant should be removed from the present high-school building. One heating plant will serve both high schools, and it will be housed in a separate building. This scheme will provide for more room in the present high-school building and will have the effect of lowering insurance rates, it is believed.

In addition to manual training and domestic science it is planned to house other branches of industrial arts in the junior high-school building. Forge work, an auto repair shop, and plumbing are among the industrial arts to be included. The domestic science, manual training, and agricultural department are to be greatly widened in their scope.

It is the hope of the school board to give a student, by the time he graduates from the junior high school, not only a fair education, but a general knowledge of a trade. This will be accomplished after a student has completed the course planned by the board for the junior school. If a student wishes to continue his or her studies, there will be but three more years of attendance to complete the senior high-school course.

School Finance

The problem of financing schools is one of the urgent problems of the day. There can be little doubt that school people will have to face this problem from two points of view. First, they will have to become very much more intelligent than they now are on the matter of relative costs within the schools. The following clipping from the *Journal*, of Columbus, Ohio, shows the type of fact which newspapers are selecting from annual school reports:

The trades school is the most expensive unit of the local public-school system. According to the annual school report, which was sent yesterday to the printer, instruction there last year cost $99 a pupil. High-school education cost $70.12 per capita, while that in the elementary grades averaged $32.

Home-economics training cost an additional 71 cents, and manual training 53 cents for each pupil enrolled in the schools. During the last school year

$971,531 was spent for instruction, $134,964 for operation of buildings and $38,383 for maintenance and repairs.

Value of 60 school sites is listed at $1,126,000 and of 57 buildings at $2,858,830. For redemption of bonds $50,202 was paid, while interest on sinking funds ate up $59,789.

Sooner or later such items will become the basis of discussions in the community, and teachers as well as administrative officers ought to be prepared to discuss them with intelligence.

The second kind of study which school people will have to make of school problems is much broader even than that directly suggested by the clipping quoted above. The fact is that Columbus, like all Ohio cities, is seriously handicapped because of a policy of taxation adopted some years ago by the state. School people will have to take up the study of the general problem of taxation. The cities of the United States have not learned to tax themselves, and there will come in the future an increasing demand for public funds, not only for schools, but for other civic activities. Already the signs are clear that the problems are upon us. School officers and teachers can let the problem drift to its solution, or they can deal with these problems more intelligently through systematic study.

The following extracts from an article in the *Picayune-Times* of New Orleans shows how one group of teachers has taken up the problem of publicity in the matter:

In order to show the people of New Orleans how the support they are giving to the public schools of this community compares with that of other cities of similar size and wealth, the Associate Teachers' League presents tables, facts, and figures drawn from the report of the *Cleveland Education Survey*, published last year. A few words and sentences have been left out, as not applicable to New Orleans, and a few words and sentences inserted, to bring the facts home. It is simply an adaptation of the material gathered by this impartial body which studies the Cleveland situation, and is used with the permission of Allen T. Burns, director of the survey.

In inquiring as to the adequacy of expenditure for school purposes it must be borne in mind that the amounts paid out, instead of being excessive, may be insufficient to meet the needs of the city's schools. While spending beyond its income, the school board may be spending, from an educational point of view, too little rather than too much.

The determination of the sufficiency or the insufficiency of school expenditure is made difficult by the absence of a recognized standard of educational

costs. Students of school administration have never agreed as to how much a city should spend for schools for each person in the population, per $1,000 of wealth, per child of school age, or per child attending school. In the absence of such a definite standard a city's expenditure for school purposes may best be measured by comparing it with the expenditures of other cities. This does not mean that the expenditure of any city, or the average expenditure of a group of cities, represents the ideal. It means rather that, as cities are working toward a common end, in the face of common difficulties, and obstacles, the average achievement of a group represents the prevalent attainable ideal for American cities. The prevailing practice is not the goal toward which educators are working, but a compromise between what is thought to be desirable and what is found to be impossible. It serves as a convenient scale by which to measure achievement.

As the educational problems of the large city differ from those of the smaller city or town, it is important, in comparing city expenditures, to deal only with cities of approximately the same size. The cities with which Cleveland and New Orleans will be compared are all those having from 250,000 to 750,000 inhabitants in 1913, for which year data are available.

A small and poor city cannot spend as much money for schools as can a large and wealthy city; nor is it needful that a city having a small number of children to educate should spend as much as a city having a large number of children. If comparisons of educational expenditures are to yield significant results, differences in the resources and educational needs of the cities compared must be considered and allowance made for them. A city's resources determine what it is able to spend for school purposes; its educational needs determine what it should spend. The amount spent, considered in relation to resources, reflects the community's generosity—the value which its citizens place on public education; the amount spent, considered in relation to educational needs, indicates the character of the tools and supplies with which the educational authorities are asked to accomplish a given amount of work.

In the present study, allowance for differences in resources will be made by basing comparisons on expenditures per inhabitant and expenditure per $1,000 of wealth; allowance will be made for differences in educational needs by basing comparisons on expenditures per child in average daily attendance. The first two standards mentioned will be used in comparing total expenditures for operation and maintenance; the third will be used in comparing total expenditures for operation and maintenance, classified expenditures for operation and maintenance, and average annual expenditures during a period of years for permanent improvements in the school plant.

After this there follow details and tables of comparative figures.

Federal Subsidies for Education

It is not within the memory of the present writer that a message of the president of the United States to Congress has made reference to any educational issue. Indeed, until recently the federal government held itself aloof from the organization and management of public schools. The Bureau of Education as a limited organization within the Department of the Interior has collected information about American schools and has, from time to time, brought together useful information about schools abroad, but the central government has treated education as a function of the states rather than as a function of the United States as a whole.

The beginnings of a departure from this policy appear in the fact that the Department of Agriculture has found it necessary, in carrying on its economic reforms and its scientific work, to provide educational institutions in the different states where experiments can be tried and where the results of experimental investigations in agriculture can be taught to all classes of students.

The movement in agriculture ultimately resulted in a recognition of the fact that secondary schools ought also to have a hand in the distribution of practical knowledge about agricultural methods. For two years past the law subsidizing agricultural education has been in operation, and the effects of that legislation are beginning to be felt in a better supervision of agricultural education and in a larger provision for its spread.

The President's message advocates in no uncertain terms the passage of the Smith-Hughes bill subsidizing industrial education. So important is the fact that this matter has been made a special subject of comment by the President of the United States that we venture to repeat the item, although it has doubtless been read by all of the readers of this *Journal*.

> At the last session of Congress a bill was passed by the Senate, which provides for the promotion of vocational and industrial education, which is of vital importance to the whole country, because it concerns a matter, too long neglected, upon which the thorough industrial preparation of the country for the critical years of economic development immediately ahead of us in very large measure depends. May I not urge its early and favorable consideration by the House of Representatives, and its early enactment into law? It contains

plans which affect all interests and all parts of the country, and I am sure that there is no legislation now pending before Congress whose passage the country awaits with more thoughtful approval or greater impatience to see a great and admirable thing set in the way of being done.

When one turns now to the files of *Barnard's Journal of Education*, he finds that the historical record of great educational movements, which Barnard left behind, is valuable because it contains items no less significant than this particular item. That the President of the United States defines industrial education as "a great and admirable thing" is indeed a sign of the times which should encourage students of elementary education to take up with increased earnestness the problem of organizing such education so that it shall articulate definitely and efficiently with the other work of the elementary school. As soon as Congress passes this law, the responsibility which rests upon the professional-school teacher to devise proper ways of carrying out the spirit of the law will be greatly increased.

The Chicago School Board

The Chicago school situation has not materially changed since the last comment which was made on that matter in this *Journal*. The Mayor has postponed the appointment of any new members to the Board, thus leaving the complexion of that body unchanged. That this method of procedure is due to the fact that it was the year of a presidential campaign, and that the City Council has recently taken a very vigorous hand in criticizing the Mayor's appointments in general, and that this same Council has interested itself vigorously in school affairs can hardly be overlooked.

The unchanged Board has re-elected President Loeb, who has been the storm center of the campaign against the Federation for the past year. Mr. Loeb promises a full statement of the policy which he will adopt, but unfortunately that statement of policy comes too late to be incorporated into this statement.

In the meantime the interest on the part of the citizens in school affairs is steadily increasing. Numerous meetings throughout the city are discussing the problem of school organization. The two associations recently formed are beginning to hold conferences to

support their various bills which are likely to be presented to the legislature this winter. The City Council has, on the recommendation of its committee on schools, approved a bill which reorganizes in wholesale fashion the school situation. This new bill is to advocate an elective board, the members of which are, according to the proposed bill, to be paid salaries of $5,000 each and are to be subject to recall. The board is to be required by legislation to give the superintendent authority over the course of study, the appointment of teachers, business organization, and other phases of school work. The teachers are to have a tenure clause, but are to be subject to judgment by the board as to the efficiency of their work.

This new bill will undoubtedly face a good deal of opposition for some of its provisions, but the situation is hopeful in that it is perfectly clear that the city of Chicago must enter upon a new and vigorous discussion of its school policies.

Chicago Dinner

Former students and graduates of the University of Chicago who expect to attend the meeting of the Department of Superintendence in Kansas City in February are reminded of the annual dinner which is held at this meeting. The dinner will be at the Hotel Muehlebach on the evening of Tuesday, February 27, at six o'clock. The price will be $1.50 per plate. Tickets can be secured in advance by writing to Dean W. S. Gray at the School of Education, or tickets will be supplied at the time of the dinner to all who have signified by Tuesday morning their intention of being present.

EDUCATIONAL WRITINGS

Two years ago at the meeting of the Department of Superintendence Dr. Ayres called attention to the fact that school surveys are a part of a general movement which is resulting in careful scientific studies of all social conditions. These scientific studies of charity organizations, housing conditions, and other social matters, represent the laboratory side of the social sciences. It is easily possible to carry on an experiment in physics in the narrow compass of a physics laboratory, but an experiment in social life requires the larger range of community organization which is presented by a city or a state.

Something of the same lack of breadth has appeared in many of the educational discussions which were carried on prior to the beginning of the movement for school surveys. There were model schools and experimental schools which, in a limited way, tried out experiments in school organization, but it is the larger school system which brings to the surface all the problems of school organization and methods of instruction. The school survey as a part of the social survey movement is therefore an enlargement of theoretical education and of practical reform which is steadily making its way and is influencing both the science of education and practical educational procedure.

Such a statement as this is reinforced by the reading of a pamphlet[1] issued by the Russell Sage Foundation. This pamphlet deals chiefly with the Springfield survey, of which Mr. Ayres's school survey was a part.

Without attempting to refer to all the details that are given in the pamphlet, attention may be called to one special section which answers the question which has frequently been raised in connection with every school survey that has been carried on. That question is: What are the results in tangible reforms that issue from a survey? It may be said that a similar catalogue of results is given for

[1] *Community Action through Surveys.* By Shelby M. Harrison. Department of Surveys and Exhibits, Russell Sage Foundation, New York City, 1916. Pp. 29.

other sections of the general social survey made in Springfield and in other cities. We quote, however, the one section which has to do with the results of the school survey in Springfield.

1. The Rules of the Board of Education have been revised, reducing the number of committees to three, as follows: (*a*) Education, (*b*) Finance and Supplies, and (*c*) School Property.

2. The junior high-school system has been adopted, and four junior high schools organized.

3. A new high-school principal was elected, and the entire organization and course of study changed. Everything complained of in the survey has been eradicated. A well-planned system of supervised study has been introduced, and the very best of discipline is obtained without friction.

4. A new modern high-school building is now being erected and will be ready for occupancy next year. This building will accommodate about 1,500 pupils, and will cost, completed, nearly $500,000.

5. The lighting, ventilation, and general sanitation of all the schools have been given attention and greatly improved. Fire-exit locks have been placed on all outside doors, and fire escapes on the high school.

6. The new school buildings in course of erection meet the highest standards of requirement with respect to lighting, heating, ventilation, and sanitation.

7. A special supervisor of buildings is employed who sees that all of the property of the district is kept in proper repair.

8. Patrons' clubs have been organized in every district of the city, and nearly every schoolhouse is now used as a social center for neighborhood meetings. Public meetings and political discussions are held in the auditoriums of the several schools, and about one-third of the voting places of the city are now located in school buildings.

9. The number of teachers employed in manual training and household arts has been more than doubled since the survey and pre-vocational training and guidance are promoted.

10. The school census has been revised, and valuable additional information is now obtained.

11. A new salary schedule for teachers and janitors has been established on a basis of efficiency, and the required qualifications of principals and teachers have been raised.

12. Seven branch libraries have been established in as many different schools, and five other centers, the books being furnished to each of these twelve schools through the city library.

13. Attendance department has been reorganized and an experienced supervisor of attendance has been secured. The work of the department has been studied and carefully systematized.

14. Finally, the entire course of study for the elementary, junior high, and senior high schools, has been revised and modernized.

Superintendent Spaulding, of Minneapolis, has devised a new method of issuing his annual report. He has substituted for the usual bulky volume a series of monographs dealing with special aspects of school organization. He has published a list of twenty such monographs, which are to appear in the course of the next school year.

The first two monographs[1] are now at hand. They bear the titles, *A Million a Year* and *Financing the Minneapolis Schools*. Some of the titles of later monographs which are to be issued are: *Where Are the Children? Keeping the Children Well, In a Major Key* referring to music in the Minneapolis schools, *Pencil and Brush* referring to art in the Minneapolis schools, and so on.

The purpose of these pamphlets is to make the activities of the Minneapolis schools accessible to the ordinary lay reader and at the same time to furnish students of education information in detail with regard to the organization and course of study of that school system.

The pamphlet, *A Million a Year*, sets forth in great detail the building needs of the city of Minneapolis. There is a table of average costs of buildings; there is a table showing the increase in school population and the needs of enlarged accommodations for the children who are to attend the schools of Minneapolis during the coming year and subsequent years. The spirit of the whole pamphlet is that of preparing, in a deliberate and fully studied fashion, for the needs of a long period of years ahead. It is gratifying to note that the citizens of Minneapolis were sufficiently impressed by the plea of Superintendent Spaulding to give him what he asked for, and thus meet adequately the building needs of that city for a considerable period of time.

The second pamphlet, on *Financing the Minneapolis Schools*, carries on the kind of reporting which Mr. Spaulding began when he was superintendent of the schools of Newton, Massachusetts. Every student of education and many practical schoolmen have come to realize the importance of doing what Mr. Spaulding did in

[1] *A Million a Year*. Monograph No. 1, Series 1916–17. Approved and ordered published by unanimous vote of the Board of Education, City of Minneapolis, 1916. Pp. 90. *Financing the Minneapolis Schools*. Monograph No. 2, Series 1916–17. Pp. 56.

Newton, namely, reporting fully each financial item to the people who pay the taxes and who are therefore interested in a very large measure in this material side of school organization. The monograph is rendered easy of comprehension for the ordinary reader by charts and diagrams that show the distribution of the funds of the school system over the various items of expenditure.

The monographs are of interest, not merely because of their contents, but because of the experiment which they represent in the publication of an annual report. Some subdivision of the superintendent's report has from time to time been undertaken in other cities, but this effort to keep in constant communication each month in the year with the school constituency is the most extended publishing enterprise which has been undertaken in any school system of the country.

A large sale followed the appearance of the first of these monographs, evidently justifying Mr. Spaulding's expectation that citizens would interest themselves in material of this type if he prepared it for them. It is to be confessed that the problem of getting hold of material of this sort grows more and more complicated each year for libraries and for individuals who make an effort to keep in contact with the school systems of the country. If all the superintendents of large cities in the United States follow Mr. Spaulding's example, it will become a Herculean task for the ordinary student of education to follow this material unless there is organized some central bureau of information and exchange. It is to be hoped, therefore, that there will be in due time some systematizing of educational publications of this sort, so that they may not be lost to the individual reader.

Two more volumes have appeared which deal, among other matters, with methods of efficient study. One[1] is written from the psychologist's point of view and contains material which has been collected in the psychological laboratory and in the practical experience of Dr. Kitson, who has made it his business in recent years to test a number of college students with a view to finding out the

[1] *How to Use Your Mind.* By Harry D. Kitson. Philadelphia: J. B. Lippincott Co., 1916. Pp. 215.

way in which they do their work and the relation of methods of work to college grades.

The book will be useful to elementary-school teachers, not so much because the advice which is given in the various chapters can be applied directly to elementary-school problems, but because it will establish that psychological point of view which is necessary if one is to study the needs of pupils of any age and grade.

The first two chapters, on "Intellectual Problems of the College Freshman" and on "Note-taking," are addressed specifically to college students. After these two chapters follows a series of chapters drawn from general psychology, one dealing with brain action, one with the formation of study habits, another with memory, another with concentration of attention, and so on. In these psychological chapters Dr. Kitson has succeeded in giving a very good review of many recent psychological studies. Indeed, the book shows the tendency of all recent psychology to go over into the fields of practical application. In addition, he has turned much of the psychological material which he reports into interesting, though often very general, suggestions of how to carry on intellectual work effectively.

The second book[1] includes as one of its three subdivisions a chapter on the art of study. The other chapters which go to make up the book are on the art of story-telling and of questioning. Each division of the book is the outgrowth of lectures which Mr. Horne has addressed to teachers in various localities. Each division is also accompanied by a bibliography and a series of questions, so that the book may be used as a textbook for the training of teachers.

The criticism which one feels disposed to make of the book after reading its pages is that the discussions are so brief and sketchy that it will be difficult to make advantageous use of the book without a great deal of reference to the collateral material which is suggested. For example, one may choose a selection from the last chapter on methods of study. On p. 151 Mr. Horne says:

> First of all, teachers must study with the pupils and let the pupils see how they themselves would set about mastering the problem or assignment. Get

[1] *Story-telling. Questioning, and Studying.* By Herman Harrell Horne. New York: Macmillan, 1916. Pp. 181.

pupils to help you in the conduct of the recitation itself; as, for instance, in stating the aim of the lesson, selecting the main points, condensing the truths of the whole into a single statement, and seeing the bearing of the lesson on living. For acquainting pupils with the method of study, there should be a study period in the schedule; where such a period is lacking a portion of the recitation period itself may be profitably given to learning how to study.

When an inexperienced teacher reads this advice, although he will be moved to try to carry out the suggestion, he will not know what steps to take. What is needed is explicit, detailed advice. Much of the literature of methodology fails because it gives the teacher in training general advice, but does not succeed in describing the particular steps which are, after all, the matters that give the inexperienced teacher the greatest difficulty. Still Mr. Horne's book will be suggestive, and it is perhaps ungracious at this stage of our study of the problem of how pupils ought to study, to criticize too severely any effort to deal with this problem. Sketchiness is in part due to the fact that we have no final solution of the questions that here arise.

The New York Public Education Association is one of the most conspicuous illustrations of an organization which has brought private contributions to bear on the development of public elementary education. Not only has this organization participated in the discussion of many of the general problems of administration in New York City, but it has taken a hand in the working out of certain very interesting experiments.

A recent pamphlet[1] published by the Association describes in detail the work of the visiting teacher. For some years past the organization has been supporting a small staff of trained people whose business it is to discover children who are in difficulty in their regular school work and to go to the homes of these children and see what kind of assistance can be rendered them so as to bring them back into proper contact with their school activities.

The effort of this organization to start the movement for a closer contact between the school and the home has met with so much

[1] *The Visiting Teacher in New York City.* By Harriet M. Johnson. Public Education Association of the City of New York, 1916. Pp. 84.

success that the Board of Education has seen the wisdom, in a number of centers, of employing visiting teachers as a part of the regular staff of the schools.

Some details of the organization of this movement are of importance. It was found more advantageous for the visiting teacher to be located at a single school than to distribute her time over a number of different school buildings. This definite location of the teacher's work makes it possible for her to become acquainted with the community and with those cases which are likely to cause most trouble. The school reports all cases that seem to need attention. The different reasons for which these cases are reported have been tabulated. They are classified under the following heads: (1) conduct below standard, which is the most common reason for referring a case to the visiting teacher; (2) scholarship below standard; (3) irregular attendance; (4) ill-health; (5) adverse home conditions; (6) lateness and a few other miscellaneous reasons. It is found in all these different cases that sympathetic attention on the part of the visiting teacher accomplishes more than does a drastic application of authority. As in the case of medical inspection, so in this general social supervision of pupils the school evidently can accomplish more by using educational methods than by using methods of the policing type.

The pamphlet now issued by the Public Education Association gives a full description of the work as carried on by the teachers in the employ of the Association. The pamphlet is valuable as a suggestion to those who are studying the problem of improving school organization. It is at the same time a careful record of the results of a notable experiment in supplementary instruction.

A SCALE FOR MEASURING THE GENERAL MERIT OF ENGLISH COMPOSITION IN THE SIXTH GRADE

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INTRODUCTION

The movement in scientific educational procedure has made rapid progress in the past five or six years. One phase of this movement that has particularly attracted wide attention is the measurement of abilities of pupils in elementary-school subjects. The demand for definite objective measurements of educational products is becoming more insistent in all departments of school work. Administrators, supervisors, teachers, and students of education generally are no longer satisfied with mere opinion regarding educational progress and efficiency. They are seeking for information of a definite character concerning the work of their schools.

The interest manifested in such measurements is prompted by a desire to determine where we are, what progress we are making, and where we ought to be. And the "ought" in this case is related to the "is." Standardization, which has for its aim the determination of the proper requirements in the various school subjects, should rest, wherever possible, on measurement. If an administrator finds that a particular class spells correctly 88 per cent of the words in a list selected from Column O of the Ayres spelling scale, it is clear that he has a definite objective measurement of the spelling achievement of that class. If he finds that a class advances from quality 11 to quality 12 on the Thorndike handwriting scale, it is clear that he has a definite measure of the improvement of this class. Finally, it seems clear that by means of just such measurements as these the most satisfactory standards of educational attainments are to be established. What a pupil ought to do should be determined on the basis of what he can do. Standards

must be dependent on actual measurement and not on arbitrary judgment.

Among the various school subjects, English composition is generally conceded to be one of the most difficult to measure. The best-known means that have been prepared for the measurement of this subject are the Hillegas-Thorndike scale and the Harvard-Newton scales. The Hillegas-Thorndike scale measures the "quality of English composition by young people," and by quality is meant general merit. The Harvard-Newton scales, four in number, are designed to measure the ability of upper grammar-grade pupils in each of the four types of composition.

The scale described and reproduced below has been devised to measure the general merit of English composition of sixth-grade children. It is not a scale in the same sense as the instrument which the grocer uses for weighing sugar is a scale. It is rather like the supposititious scale described by Thorndike[1] in his monograph, "The Measurement of Achievement in Drawing." "If we had a series of blocks of lead," says Thorndike, "weighing 2.4, 3.9, 5.7, 6.5, 7.8, 8.6, 10.5, 11.8, 12.6, 13.5, 14.4, 16, and 17 pounds respectively, they would be a scale or graded series of standards for weight substantially as these drawings are a graded series of standards of children's drawings."

This kind of scale is not original with scientific students of education. It is well known in other scientific fields. Some readers may be familiar with the scale of hardness used in mineralogy, or with the hemoglobin scale used by physicians, or with the tintometer of the industrial arts. The scale of hardness is a series of mineral specimens ranging through ten steps of hardness. The hardness of each of the specimens of the scale has been carefully determined. The hardness of any unknown mineral may be tested by comparing it with the scale. When a mineral on the scale is found that resists abrasion to about the same degree as the unknown, the hardness of that member of the scale is assigned to the mineral tested. The hemoglobin scale of the physician is used in a similar manner. A drop of blood is allowed to fall on standard blotting-paper, and the stain is matched against a series of tints on a lithographic scale.

[1] *Teachers College Record*, XIV, 352.

A Scale For Measuring the General Merit of English Composition in the Sixth Grade

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The numbers above the samples represent amounts of merit.

.2

The hanjict shop for there
there was so many in it. After
a little they it going. And
they to pleace were the the picine
was. They all get out of the
hounce and but there thing
down
on the table and rain out to
play. After they were platy
the had there lunce. And
They had a very nice time.

2.7

When the engine r stop, one
of the boy took his shoes and
off
stocking^v and got out into the
river and bushe the bout a little
so as to stare the engine r
a going, when that had
stared the bowt went aright.
And they went rideing
around the river where
having a nice time went
one of the girl saw a water—
lillies and they try to pick when she
fell in the river but she got
aright, her cloth were wet
some but they soon try, and
she got her water lillies.
When they were throu-
ght rideing they got out and
went to the bank and
had their lounce, After
that they play games,
which then they began
to pick flowers in the woold.
But when they went home
they had many beautiful flow r
to take their mothers. But
when the departed they
all to their teacher we all
have like you this year and
hope you will teach again
next year. And we all are glady
we have pass this year.

3.7

They were near the park when the ~~enjing~~
engin stoped. They pattled ashore and went on
there
to the parck. ~~There~~ t There, ~~the~~ was a man who
had another f boat. ~~At~~ After a while they
asked the man if he would tow the boat back
when he went and he said that he would. When
evening came the man told the teacher that he
was going f back. The teacher ~~glad~~ gathered the
children together and went to there boat, where
on
the man had already tied the top rope ~~one~~ the
were towed
boat. They all got in and ~~wont~~ back ~~I~~ up the
river. Then they departed and went home happily.

4.7

Jack the one who was runing
the launch said, " lets take these pales
and push the launch to shore. Yes! Yes!
let do said all; we took the poles
and tu) pushed it to shore. Jack
got out and looked around. He saw
a house over yonder, he went over
to see if they had any gasoline,
when. he got there and ask they
had none. When he came back
we were suprised to (she) see
him without the gasoline. He
said, "lets go out here and walk
the rest of the way. We (w) all
said yes, because it was only about
one and a half (ba) blocks or so.
When we arrived at the wood
we all ran to get a the
tables set and get every thing
ready. that so went we got
through picking a few we coald
eat our lunch. When we got
enough (w) violets, of purple, white
and yellow, dutechmans breechs,
an lilies and etc. we ate our
luanch and had a fine time.
We got ready to go home
and a big cloud of black was
over us, we got ready just the
same and had to push it alone the way hon.

5.7

After a time floating on the river.They got
it started and away they went, It was two
oclock when they got to the picnic grounds.
All played games till 3oclock, then they
had lunch, and played awhile longer, then
got ready to come back. John took the
baskets to the river to puttin the boat
but it was gone. one of the boys went
up the river a little ways, but
stayed to long. The children thought some
one stole it. They were all there, but where was
Jack? Henery heard the chucking of a boat,
He ran to the river, and saw Jack coming
around the curve, He gave Jack a scolding
for taking the boat. So they loaded the things in
and started for home. They all landed
safe, and were glad that the engine did
not buck, that ended the picnic.

7.0

"Oh," crief Jhoney, "what shall we
do. The teacher who had been
shouting with the children, turned
pale for just ahead of them was
a swift currant which, she knew,
would (lu) hurrel the launch
up side down and drownd them all.
Some of the little girls began to
cry but the teacher relized that
something must be done at once.
She was a brave and gritty little lady
and so she resolved to do
a dangerous thing. She knew that
if the boat could be turned on some
other course that they might
see a boat and be saved but
no body ever ventured in this
dangerous place.
~~There was a rope in.~~ A little
ways from the launch was a
~~he~~ long board. ~~(If they could)~~
floating around.
If they could but reach this it
might mean safty for they could
push the boat out of this course.
There was a rope in the launch
and the teacher tied it around her
waist and had four of her strongest
boys to hold on the other end.
The teacher jumped over board for
she could swim quite good.
Three times the board slipped
out of her hands and she was almost
discouraged when at last she got it.
A shout of joy arose from the boat
~~and~~ but the teacher had no
time to join them for in two
more minutes the boat would be
in the currant.
She got on board and ~~in~~
before they could realize what
was happening she was pusshing
the boat out of its course and some
of the big boys were helping her.
At last the boat moved into other

8.0

They had run out of gasoline. Where
they were it was ten feet deep and no
one could swim.
What could they do with all these chil-
ren, crying and shreiking with the fear of
not being able to have the picnic.
The man that ran the engine told the
others that they must wait for someone to
come along and take them to the dock. Then,
children were getting nervous about
staying over night.
Suddenly a bright thought came to
the teacher. She said, "Children, can't we ha
a picnic on the boat? There is plenty of sit-
ting down games, I am shure. "This idea pleas-
ed the children and soon they were very busy
laughing. Soon as the big steamer 'Armada'
went past and offered to take them in but
the children were having so good a time
that they asked the 'Armada' to come back at
five o'clock.
They had their picnic lunch on the
boat at four o'clock, and by five they were
willing to go back.
They afterwards said it was more
fun than all the other picnics put to-

9.0

"What! the engine stopped, well I
declare," ex claimed the teacher, "and we
time
were planning such a fine^v too," she finished
I am very sorry this has happed
madam." said the boatman," but we are
in no great danger, as I have a friend
near here who will help me get ashore."
At this the boatman took a
shining white whistle from his pocket
and blew three long shrill blasts,
which I suppose was some signal for a
heavily built man was soon on the
bank and after finding what was wanted
he was soon in his boat house after his row b
Soon every one was safely landed
on the opposite shore. and to judge by
their faces enjoying themselves very
much.
The boat was fixed in a short
time and they all got in and had a
happy time riding.
They all thought this landing place
was fully as nice as the other and
it fact as good as any other.

9.7

"What is the matter"? asked Miss Green,
the teacher of the school, to the man who
was running the little launch. "I'm
sorry mam," he said, "But the gasoline
has given out." Some of the more timid
children began to cry. "Hush," said the
teacher a little sternly, "We cannot let
this accident apoil our picnic." "Why
can't we have our lunch right in the
boat?" cried Mary, Brightly. "That is
a fine idea, Mary," the teacher said
gratefully. With the help of the pupils
Miss Green managed to set the lunch
on the floor of the boat. After lunch
their spirits began to rise, and they amused
themselves by telling stories.
All this while they were drifting
along quietly. "There is a launch
coming towards us!" exclaimed a small
boy. Miss Green looked and sure
enough there was a launch heading
directly towards them. They were towed
back home by this boat. That was
a fine picnic after all, "chorused the
children as they stepped on firm
land once more.

The scale indicates hemoglobin content from 10 to 100 per cent. The tintometer is used in like fashion to determine the tints of solutions and fabrics.

In the same manner we have in this composition scale a series of samples whose values have been carefully determined by the average judgment of over sixty individuals, nearly all of whom were experienced teachers, twenty of them specialists in English, and the remainder students of education. These samples have been arranged in ascending order, 0.2, 2.7, 3.7, 4.7, 5.7, 7.0, 8.0, 9.0, and 9.7 being the values assigned. Just as the student of mineralogy can determine the hardness of a mineral more accurately with the hardness scale, and the physician can estimate the amount of color in the blood with greater precision by the use of the hemoglobin scale, so the teacher can determine the merit of a sample of English composition with greater precision by comparing it with a graded series of evaluated compositions such as the present scale.

CONSTRUCTION OF THE SCALE

The construction of this scale grew out of an attempt to survey the instruction in English in a selected sixth grade in each of ten Michigan cities. The following letter was sent to the superintendents of ten school systems inviting their co-operation in the work:

DEAR SIR:

With the assistance of advanced students in the Department of Education of the University of Michigan, I am planning to make a limited survey of the work of the sixth grade in each of ten Michigan public-school systems. It is our desire that the school systems co-operating in the work be of varying size, and, where there are a number of sixth grades, that the grade selected for testing be, as nearly as can be judged, as good as any in the city. It is our intention to submit to the principal and teacher, or teachers, with the consent of the superintendent, not over six tests, with directions for giving. The tests are limited to six because we wish to confine ourselves to those subjects in which standard scores or scales of measurement have been developed. The subjects are: reading, arithmetic, writing, English composition, spelling, and drawing. After the work has been done by the pupils, it will be forwarded to the University and scored by means of the scales now available in the subjects named. The purpose of the investigation is threefold: (1) to demonstrate the use of scales of measurement, (2) to secure for the superintendent a comparative estimate

of the work of a sample grade in his schools, (3) to make a study of the scales of measurement and their application.

It is our desire to go ahead with the work as soon as the schools approve and the tests can be prepared. If you feel that the survey as outlined would be beneficial to you and your schools, we should be pleased to have you join with us. An early reply will be appreciated.

The names of the towns and cities in which these systems of schools were located, with populations according to the *Michigan Teachers' Directory* for 1915, are as follows:

South Haven	4,500	Port Huron	22,500
Three Rivers	5,500	Saginaw, E.S.	30,000
Coldwater	6,000	Lansing	42,000
Owosso	10,000	Kalamazoo	48,000
Ann Arbor	16,000	Grand Rapids	112,571

Favorable replies were received from all of the ten. The following composition test, with accompaning directions for giving, was then sent to the superintendents along with the tests in the five other branches included in the survey.

COMPOSITION TEST

When the sixth grade is distributed through two or more rooms see that this test is given in all these rooms during the same session.

Uniform paper (which has been supplied) and pens should be distributed and ready for use before the teacher begins the test. See that *each sheet* is headed with (*a*) the pupil's name, (*b*) the grade, (*c*) the school, (*d*) the city, (*e*) the date.

Say to the children: "I am going to read you the first part of a story called 'The Picnic,' and when I am through I want you to write the rest of it for me. Listen carefully."

THE PICNIC

It was a beautiful day in June, and the pupils were busily planning for a picnic which was to take place that afternoon in the park a mile down the river.

"Now, John, don't forget to bring your spoon and tin cup, and, Mary, be sure that you have enough sandwiches," said the teacher. After a few words to some of the other pupils who were going to the picnic, she dismissed them, all eager for the coming event, and all promising to be on hand at one o'clock, at the landing, ready for a jolly time.

One o'clock found them all assembled, with baskets packed and happy faces. The boat in which they were to start was a sturdy little gasoline

launch, with plenty of room in it for all. They stowed themselves aboard, and shouted to be off. Soon they were chugging merrily down the stream.

Everything seemed to be going along smoothly, when suddenly the engine stopped running!

"Now, I want you to use your imagination and make up *the rest* of the story for yourself. Think of what *you* would have done if you had been on the boat when it stopped, and what other adventures the pupils might have had during the rest of the afternoon. I shall give you *twenty minutes* in all to think of your story and to write it, but do not start writing until you have thought of something that will make a good story. Are there any questions?"

Answer any questions which may arise, but be careful not to give the pupils any hints which might suggest to them a possible ending for the story. Be sure that the pupils understand that a *reproduction* of the story read is *not* wanted. Then, say, "You may begin."

Keep the time accurately from this point, and at the end of exactly *twenty minutes*, say, "Stop writing," and collect the papers.

Please indicate the sex of the pupil when the same is not clear from the name.

By this means 481 samples of English composition were obtained on the same subject and under relatively similar conditions. Since the superintendents were asked to submit the test to a sixth grade "as good as any in the city," it is fair to suppose that many of them submitted it to the better classes, if not to the best, and that the samples therefore represent a range of ability somewhat above the normal for this grade. After the samples had been numbered and were ready to be scored, it seemed possible to build out of this material a scale that would score the results from these several schools more satisfactorily than the Hillegas-Thorndike scale.

The 481 samples were thereupon submitted to three competent judges, who graded them independently into ten groups according to their general merit as samples of English composition. The samples were arranged in such a manner that the poorest specimens were placed in group 1, next to the poorest in group 2, and so on by approximately equal steps to the best group, which was marked 10. The reports of the three judges were then tabulated and a set of 70 samples chosen from the 481 for further investigation. These samples were selected according to agreement in the reports of the judges, i.e., those samples were selected for further use which showed an agreement in the reports of two or more judges in placing them

in a given group. As might be expected, there were very few extremely poor samples and very few of the highest quality. Almost all of the samples at the extremes of the distribution were included in the list of 70.

This set of 70 samples therefore represented the total range of composition ability of the grade measured. These samples were typewritten in such a manner as to reproduce as exactly as possible the form of the compositions, handwriting alone being excluded. This meant that margins, paragraphing, relative length of lines, and erasures, as well as errors in spelling, capitalization, and punctuation, were reproduced. The 70 typewritten samples were then submitted to 20 judges, students of education, most of whom were experienced teachers, with the following instructions:

DIRECTIONS TO JUDGES

1. Read the accompanying "Composition Test," showing the conditions under which the compositions were produced.

2. Read the samples carefully, arranging them in five groups according to their general merit as samples of English composition. Put those which appear to be the best in group (A), the next in rank in group (B), and so on in groups (C), (D), and (E). Do not try to put the same number in each group, but simply group those which seem nearest in rank for convenience in step 3.

3. Then, beginning with the poorest group, find the poorest sample, then by comparison the next to the poorest and so on until the best of all the samples in all the groups is found. It is best to compare but two samples at once and decide their relative positions by judging whether one is better or worse than the other. You should now have the seventy samples arranged in the order of merit with the poorest on the bottom and the best on the top.

4. Compare the samples once more and make any corrections you think necessary in the relative rank of each.

5. Fill out the following table from your arrangement of samples, marking the *poorest sample* 1, and so on up to the best, which should be marked 70.

Number of sample	Rank assigned
1	
2	
3	
4	
5	
etc., to	
70	

6. Please do not confer with anyone on any part of the work.

7. Kindly return the compositions with your report in the inclosed stamped and addressed envelope.

8. Write your name and address below and estimate the time required to do the work.

Name.....Address..... Time.....

From the reports of these judges Table I was prepared, showing the positions assigned the various samples. Only 25 of the 70 samples appear in the table, these being the 25 that were subsequently used in further investigation. The 25 samples were selected by a method similar to that used in the selection of the final samples of the scale which is described more fully on a later page. From the set of 70 samples it was found that at least 14 separate scales could be selected in which a scale step varied from 0.75 to 1.25 P.E. Of the 70 samples, 35 were included in one or more of these scales. Of these 35, 10 were rejected. These 10 samples were located at intermediate steps where there were other samples with a greater frequency of appearance in the 14 scales. Thus there were left for further study 25 samples.

From Table I, Table II was compiled showing the number of better judgments. The number of better judgments in each case was determined by comparing the positions assigned each sample with the positions assigned every other sample in the set. For example, if we compare sample 421 with sample 275 in Table I, it will be seen that sample 421 was judged better than sample 275 six times, that is, 6 of the 20 judges thought sample 421 better than sample 275.

In order to secure a more accurate rating through greater competency of judges, these 25 samples were submitted to 20 special teachers of English, most of whom were teachers in Michigan high schools, with the same directions for judging the samples and recording the results as were sent to the first set of 20 judges, except that, since there were but 25 samples in this set, they were instructed, in arranging the samples in order, to call the poorest sample 1 and the best 25. The results from these judges appear in Tables III and IV, Table IV being prepared from Table III in the same manner as Table II was prepared from Table I.

TABLE I

POSITIONS ASSIGNED BY 20 JUDGES TO 25 OF THE SET OF 70 SAMPLES CONSIDERED BY THESE JUDGES

Judges	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
312	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1
289	2	3	2	3	4	2	2	4	6	2	3	2	5	5	4	2	4	4	2	6
303	11	2	7	10	11	29	13	3	10	4	2	5	12	7	2	4	10	3	9	8
195	8	10	20	14	10	8	27	7	7	9	10	15	21	14	13	5	18	6	11	7
421	10	20	21	5	17	6	5	37	14	5	19	11	11	13	17	7	12	18	25	24
275	23	23	28	13	25	18	11	11	12	10	22	14	18	18	16	17	27	14	6	9
168	25	15	36	18	13	27	19	20	11	18	14	16	20	20	20	9	14	16	7	34
360	36	12	18	39	27	45	22	27	24	16	13	27	34	29	21	10	19	23	37	13
324	35	13	12	22	16	41	37	12	16	15	12	40	55	30	15	49	50	15	28	20
73	26	28	13	16	32	16	20	30	21	20	27	33	30	19	47	65	32	55	48	28
454	38	45	24	46	23	44	14	18	25	11	45	34	33	24	22	24	51	22	20	32
306	34	22	30	35	28	42	42	25	17	29	24	20	31	35	25	43	33	21	34	12
166	41	34	42	31	31	24	25	22	29	25	36	53	40	49	28	23	20	26	44	65
30	27	38	16	26	41	53	46	23	39	34	40	23	19	47	24	67	28	50	62	37
228	39	62	45	37	54	26	47	55	56	50	62	42	53	31	54	28	57	27	24	57
63	46	50	51	43	59	39	57	36	51	54	51	43	24	22	66	68	64	54	40	54
89	58	66	43	21	56	50	48	52	37	56	64	51	52	56	44	61	59	52	50	44
287	63	67	57	62	62	62	51	48	42	60	66	55	35	61	38	44	68	60	36	58
385	70	65	70	70	64	70	65	59	59	46	68	68	43	68	39	41	42	70	53	50
126	64	39	67	50	47	54	50	54	64	70	41	58	59	60	43	63	67	37	65	62
257	69	37	64	65	49	52	62	65	57	65	37	38	51	65	64	57	66	64	47	61
342	67	54	40	63	65	66	63	57	65	55	53	67	63	69	62	33	37	61	69	53
212	66	68	65	64	57	65	58	62	70	41	67	47	67	54	63	70	70	44	56	56
448	65	63	68	66	67	57	61	58	63	53	63	59	69	67	65	69	43	67	68	69
8	68	70	60	68	70	59	68	68	67	64	70	69	65	70	70	66	54	69	67	67

TABLE II

NUMBER OF "BETTER" JUDGMENTS OF 20 JUDGES WITH A SET OF 70 SAMPLES

Only 25 of the 70 Samples Are Here Recorded. The Table Should Be Read, "None of the Judges Considered Sample 312 Better than Sample 289," etc.

Samples	289	303	195	421	275	168	360	324	73	454	306	166	30	228	63	89	287	385	126	257	342	212	448	8
312	0	0	0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
289	....	5	0	0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
303	....	....	5	5	3	1	0	0	1	0	0	1	0	1	0	....	....	....	....	....	....	....	....	....
195	....	....	....	8	4	4	2	1	2	1	0	1	1	0	0	....	....	....	....	....	....	....	....	....
421	....	....	....	....	6	7	5	8	2	2	2	1	2	0	0	0	....	....	....	....	....	....	....	....
275	....	....	....	....	....	5	5	5	2	2	0	1	1	0	0	0	....	....	....	....	....	....	....	....
168	....	....	....	....	....	....	5	8	5	4	2	0	2	1	0	0	0	....	....	....	....	....	....	....
360	....	....	....	....	....	....	....	11	8	9	7	4	5	3	2	0	1	0	....	....	....	....	....	....
324	....	....	....	....	....	....	....	....	8	6	5	5	4	4	4	2	2	3	0	2	2	0	1	0
73	....	....	....	....	....	....	....	....	....	5	11	7	5	3	2	2	3	2	3	2	1	0	....	....
454	....	....	....	....	....	....	....	....	....	....	11	5	8	2	4	0	0	1	0	2	1	0	....	....
306	....	....	....	....	....	....	....	....	....	....	....	7	5	4	0	1	0	1	0	0	1	0	0	....
166	....	....	....	....	....	....	....	....	....	....	....	....	7	5	5	3	3	1	1	1	2	1	0	....
30	....	....	....	....	....	....	....	....	....	....	....	....	....	4	3	4	2	2	1	5	1	2	0	1
228	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	5	4	3	5	5	4	2	1	1
63	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10	4	5	7	6	5	4	3	2
89	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	5	5	7	6	4	4	1
287	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	9	6	7	5	5	1
385	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	12	13	11	11	11	5
126	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11	5	6	3	3
257	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10	9	4	4
342	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	8	2
212	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	6
448	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5
8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

TABLE III

POSITIONS ASSIGNED TO 25 SAMPLES BY 20 JUDGES

Judges	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
312	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
289	2	1	2	2	2	2	2	2	2	2	2	2	3	2	2	3	2	2	2	2
303	7	3	3	4	3	3	3	3	3	3	3	3	4	3	3	4	3	3	3	4
195	3	6	4	6	4	5	9	5	4	6	5	4	2	4	5	2	7	4	4	7
421	13	7	10	3	6	8	5	6	10	4	8	10	8	5	7	17	4	12	7	5
275	4	4	6	10	10	4	6	7	5	5	4	6	5	10	4	14	8	8	5	3
168	6	5	8	7	11	6	7	8	9	7	9	9	9	9	11	5	10	11	8	9
360	9	13	11	11	5	11	10	9	6	8	10	5	10	12	6	21	12	13	12	15
324	5	11	9	8	8	9	8	10	8	12	6	11	7	11	12	15	6	9	9	10
73	10	8	5	5	7	10	15	4	12	15	11	7	12	6	9	19	17	5	6	6
454	8	12	7	12	9	7	4	12	7	9	12	14	6	13	10	18	11	10	10	11
306	12	9	12	13	12	12	11	11	13	16	7	8	14	8	8	10	16	7	11	8
166	14	16	14	15	18	16	19	16	15	11	20	15	17	17	18	20	13	16	16	12
30	11	14	13	16	13	13	13	13	11	17	13	13	15	7	14	13	5	6	13	13
228	18	19	17	9	14	18	12	14	14	10	18	17	24	19	16	12	15	19	24	22
63	20	10	19	18	15	14	20	17	20	14	19	23	11	14	13	16	21	15	14	14
89	15	20	16	14	16	15	23	15	19	18	15	19	16	18	17	23	20	17	15	18
287	21	15	15	20	21	21	24	18	18	19	23	18	23	15	15	6	19	20	23	23
385	17	25	24	24	24	24	16	25	25	22	16	21	25	21	21	24	24	18	25	16
126	16	18	21	23	23	23	21	23	23	20	22	22	18	23	23	8	18	25	17	21
257	23	24	22	19	20	17	17	19	17	25	17	20	22	16	19	7	22	14	18	17
342	22	22	23	21	19	19	14	20	16	21	21	16	21	25	20	22	14	23	21	24
212	19	17	20	17	17	20	18	22	21	13	14	12	20	22	24	11	9	21	19	19
448	24	23	18	25	25	22	22	24	22	23	24	24	13	24	22	9	25	22	20	20
8	25	21	25	22	22	25	25	21	24	24	25	25	19	20	25	25	23	24	22	25

TABLE IV

NUMBER OF "BETTER" JUDGMENTS OF 20 JUDGES WITH A SET OF 25 SAMPLES

The Table Should Be Read, "One of the Judges Considered Sample 312 Better than Sample 289; None of the Judges Considered Sample 289 Better than Sample 303," etc.

Samples	289	303	195	421	275	168	360	324	73	454	306	166	30	228	63	89	287	385	126	257	342	212	448	8
312	1	0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
289	....	0	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
303	....	....	3	1	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
195	....	....	....	5	6	2	0	2	3	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
421	....	....	....	....	13	8	5	7	5	6	5	0	3	1	....	....	....	....	....	....	....	....	....	....
275	....	....	....	....	....	3	2	3	6	2	3	0	4	2	0	....	....	....	....	....	....	....	....	....
168	....	....	....	....	....	....	4	7	10	7	6	0	3	0	0	....	....	....	....	....	....	....	....	....
360	....	....	....	....	....	....	....	14	10	11	7	2	5	2	3	....	....	....	....	....	....	....	....	....
324	....	....	....	....	....	....	....	....	11	7	7	1	4	2	1	....	....	....	....	....	....	....	....	....
73	....	....	....	....	....	....	....	....	....	8	5	2	4	4	3	0	1	....	....	....	....	....	....	....
454	....	....	....	....	....	....	....	....	....	....	9	0	5	2	2	0	1	0	....	....	....	....	....	....
396	....	....	....	....	....	....	....	....	....	....	....	2	5	3	2	0	1	0	1	....	....	....	....	....
166	....	....	....	....	....	....	....	....	....	....	....	....	17	9	10	7	4	2	1	5	....	....	....	....
30	....	....	....	....	....	....	....	....	....	....	....	....	....	4	4	1	1	0	1	1	0	....	....	....
228	....	....	....	....	....	....	....	....	....	....	....	....	....	....	12	9	7	4	5	8	4	8	4	2
63	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	5	4	4	6	4	7	2	0
89	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	2	4	6	5	7	3	0
287	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	7	9	9	11	4	2
385	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13	15	15	14	8	9
126	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13	11	15	5	5
257	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	10	4	3
342	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15	7	3
212	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	3
448	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6
8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

From the data of Table IV the scale was derived by the method of right and wrong judgments.[1] If we compare sample 195 of this table with sample 421, it will be noticed that 5 of the judges considered sample 195 better than sample 421, and therefore the rest of the judges, 15 in number, considered sample 421 better than sample 195. The 5 judgments making sample 195 better than sample 421 represent the "wrong" judgments, and the 15 judgments making sample 421 better than sample 195 represent the "right" judgments. The data of Table IV are readily reducible to percentages of "better" judgments on inspection. For example, the comparison between sample 195 and sample 421 may read, "25 per cent of the judges considered sample 195 better than sample 421, and 75 per cent considered sample 421 better than sample 195."

The unit of difference between the samples of this scale is defined as that difference which 75 per cent of the judges are able to distinguish and 25 per cent of the judges fail to distinguish. If all of the judges consider one sample better or worse than another, it is evident that we have no means of knowing how much better or worse the one is than the other. Further, if half of the judges consider one sample better than another and half consider it worse, it is evident that the samples may be regarded as of equal value. When 75 per cent of the judges judge one composition better than another and 25 per cent regard it as worse, comparison of the surfaces of distribution of the judgments on the two compositions shows clearly that the median values of the two compositions are separated on a common scale by a distance equal to the probable error. A unit on the present scale is therefore 1 P.E.

A scale is more convenient as an instrument of measurement if the steps are of equal size. An inspection of Table IV shows that it is not possible to select from the samples therein represented all the samples of a scale so that each step will be exactly 1 P.E. Percentages of "worse" judgments other than 25 may be expressed in terms of probable error by reference to Table V.

If we begin the selection of a scale with sample 195 (Table IV), sample 421 will be the next member, one step higher, since 25 per

[1] G. S. Fullerton and J. M. Cattell, "On the Perception of Small Differences," Philosophical Series of the *Publications of the University of Pennsylvania*, 1892, No. 2, pp. 12 f.

cent of the judges considered sample 195 better than sample 421. In the same manner sample 360 was selected as the next higher member, since the difference between samples 421 and 360 was found to be 1 P.E. Sample 30 followed sample 360 in like fashion. Since no sample was found which differed from sample 30 by exactly 25 per cent worse judgments, sample 228 was selected because its percentage of worse judgments approximated the desired percentage as closely as that of any other sample. Sample 30 was considered

TABLE V

TABLE FOR DETERMINING THE PROBABLE ERROR FROM THE PERCENTAGE OF WRONG JUDGMENTS

Percentage of Wrong Judgments	Probable Error	Percentage of Wrong Judgments	Probable Error	Percentage of Wrong Judgments	Probable Error
1	3.45	18	1.36	35	0.57
2	3.05	19	1.30	36	.53
3	2.79	20	1.25	37	.49
4	2.60	21	1.20	38	.45
5	2.44	22	1.14	39	.41
6	2.31	23	1.10	40	.38
7	2.19	24	1.05	41	.34
8	2.08	25	1.00	42	.30
9	1.99	26	0.95	43	.26
10	1.90	27	0.91	44	.22
11	1.82	28	0.86	45	.19
12	1.74	29	0.82	46	.15
13	1.67	30	0.78	47	.11
14	1.60	31	0.74	48	.07
15	1.54	32	0.69	49	.04
16	1.47	33	0.65	50	0.00
17	1.41	34	0.61		

better than sample 228 by 20 per cent of the judges. This difference in percentage expressed in terms of probable error, according to Table V, is 1.25 P.E. The remaining samples of the scale were selected by proceeding in the same manner. Table VI gives a list of these samples with the percentages of better judgments, the probable error differences, and the probable error distances from the lowest sample in the scale.

In addition to the percentages of better judgments from Table IV, there are presented in Table VI the percentages of better judgments on the same samples from Table II. We have in these two sets of figures a means of comparing the rating given these

samples by the 20 students of education with that given by the like number of special teachers of English. It is interesting to note that not only do the samples preserve the same relative rank in both sets of judgments, but—what is more interesting—the intervals between samples are judged exactly the same by both in all but two cases, and in each of these cases the variation is slight. With so small a difference in the results from the two sets of judges, the writers seemed justified in adopting for the final scale the values from Table IV.

TABLE VI

VALUE INTERVALS BETWEEN SCALE SAMPLES

Samples	Percentage of Better Judgments, Table IV	P.E. Distance from Preceding Sample	Distance from Sample 195	Percentage of Better Judgments, Table II
195	.....	.....	0.0	.....
421	75	1.0	1.0	60
360	75	1.0	2.0	75
30	75	1.0	3.0	75
228	80	1.25	4.25	80
126	75	1.0	6.25	75
448	75	1.0	7.25	85
8	70	0.78	8.03	70

Any scale to be of fullest service must be graduated with reference to an established zero point. From Table VI one can see that sample 8 is 5.03 steps above sample 30, but he cannot say how many times better sample 8 is than sample 30. In other words, the measurement is only relative. Another set of judgments was therefore necessary to determine the distance of the lowest sample of the scale from zero. A set of 7 compositions was accordingly submitted to 20 competent judges with instructions to arrange them in the order of merit. This list of 7 was made up of samples 580, 595, and 607 from the Hillegas list and samples 312, 287, 303, and 195 from our sixth-grade list. Sample 580, assigned zero value by Hillegas, was assumed here to have zero value. The other two Hillegas samples were selected because they were known to have values in the neighborhood of zero. The samples chosen from our sixth-grade list were those which, according to our figures, approximated most closely zero values. The results of these judgments appear in Tables VII and VIII.

TABLE VII

THE POSITIONS ASSIGNED TO 7 SAMPLES BY 20 JUDGES

Judges	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
670*	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
580*	2	3	2	3	2	2	4	2	2	6	3	3	2	3	2	2	3	3	2	3
312	3	2	3	1	3	4	3	3	4	2	2	4	3	2	3	3	2	2	3	2
595*	5	7	4	4	5	3	1	4	5	7	5	2	7	4	4	4	4	5	4	5
289	7	4	7	5	6	6	7	6	3	5	4	7	6	5	6	5	4	7	7	4
303	4	5	5	7	4	5	6	7	7	4	7	5	5	7	5	6	6	4	6	7
195	6	6	6	6	7	7	5	5	6	3	6	6	4	6	7	7	5	6	5	6

*Samples selected from the Hillegas list.

In Table VIII it will be noticed that 45 per cent of the judges considered sample 580 better than sample 312. According to Table VI this percentage of worse judgments implies a difference between the two compositions of 0.19 of a step. Assuming the value of sample 580 to be zero as above stated, the absolute value of sample

TABLE VIII

NUMBER OF BETTER JUDGMENTS FOR A SET OF 7 SAMPLES RANKED BY 20 JUDGES

Samples	580	312	595	289	303	195
670	0	1	1	.....	.....	.....
580	.....	9	2	1	1	1
312	.....	.....	3	1	0	0
595	.....	.....	.....	6	5	3
289	.....	.....	.....	.....	11	9
303	.....	.....	.....	.....	.....	11
195	.....	.....	.....	.....	.....	.....

TABLE IX

VALUE INTERVALS OF SCALE SAMPLES FROM AN ESTABLISHED ZERO

Samples	Percentage of Better Judgments	P.E. Distance from Preceding Sample	Distance from Sample 580	Final Value Assigned
580*	.....	.....	0.0	0.0
312	55	0.19	0.19	0.2
595*	85	1.54	1.73	1.7
289*	70	0.78	2.51	2.5
195	55	0.19	2.70	2.7
421	75	1.00	3.70	3.7
360	75	1.00	4.70	4.7
30	75	1.00	5.70	5.7
228	80	1.25	6.95	7.0
126	75	1.00	7.95	8.0
448	75	1.00	8.95	9.0
8	70	0.78	9.73	9.7

*Not used in the final scale.

312 is therefore 0.19 of a step above zero. Similarly the difference between samples 312 and 595 is found to be 1.54 P.E. The percentages of better judgments, the P.E. distances between the samples, and the P.E. distances above sample 580 appear in Table IX. The Hillegas samples do not appear in the final scale.

APPLICATION OF THE SCALE

The samples of the final scale, arranged in ascending order with the values affixed, were printed as they appear in the insert (facing p. 309) and used to score the samples of composition obtained from the 10 cities. Each sample of composition was scored by 5 competent individuals. The average of the 5 scores assigned to a sample was taken as the score of that sample. The average score of the samples from any grade was taken as the composition score of that grade. The results of the scoring appear in Table X. The different sixth grades, indicated by letters, appear in the order of rank according to their average scores. Rank 1 indicates the lowest rank and 10 the highest.

TABLE X

THE ABILITY IN ENGLISH COMPOSITION OF A SELECTED SIXTH GRADE IN EACH OF TEN MICHIGAN CITIES

City	Divisons of Grade	Score	Rank
A	A	5.477	1
B	A	5.582	2
C	A and B	5.738	3
D	A and B	5.941	4
E	A	5.995	5
F	A and B	6.077	6
G	A	6.104	7
H	A and B	6.196	8
I	A and B	6.211	9
J	A	6.446	10

An examination of the scores of Table X shows that the difference between the score of the lowest school on the list and that of the highest is 0.969, or practically 1 step on the scale. At first glance this difference may appear to be strikingly small, and one may be tempted to conclude that the composition abilities of the 10 schools are practically equal. The question might well be raised, however, How large a difference in ability is represented by one step on the scale? If one assume equal enrolments in the grades tested, and plot a surface of distribution of composition ability for School A and a similar one for School J, and if these surfaces of distribution be so placed that the median of one is 1 P.E.

distant from the median of the other, as the above difference would require, it will be observed that 75 per cent of the pupils of School J are above the median of School A. This means that for every two pupils of School A making a grade of 5.7 or better on the scale, there are three pupils in School J making the same grade or better. The meaning of a difference of one step on the scale might be expressed more clearly if we knew the amount of time or the amount of teaching effort that would be required to produce this degree of improvement in a sixth grade. In the opinion of the writers, both the time and the effort would probably be much larger than a cursory examination of the scores of Table X might lead one to suppose. It is evident that some three or four years of composition teaching has been necessary to advance the sixth grade of School A from a point somewhat above zero ability to an ability represented by the score 5.477. Again, the amount of time and effort necessary to advance a class one unit above 5.477 would certainly be greater than the amount of time and effort necessary to advance the same class a unit from any point below 5.477. Finally, judging from previous studies in measurement, the writers are of the opinion that the range of variation of median-grade abilities for the eight grades in composition would not be greater than the range of ability shown on this scale. In view of these considerations, it seems reasonable to suppose that there is in all likelihood as much as a year's composition training represented by the difference in the scores of Schools A and J. However, the amount of this difference could be determined by experiment with approximate accuracy.

To measure a grade by means of this scale, first administer the test according to the instructions given earlier in the paper. Then apply the scale to the results by comparing each composition carefully with the samples on the scale and recording for it as its score the numerical value of the scale sample resembling it most. The average of these scores will be the score of the grade. A comparison of this average with the scores of the schools presented in Table X should give a definite notion concerning the standing of the grade tested. The reader should be reminded, however, that the scores of these schools are probably somewhat higher than they

would have been had the grades been randomly selected. They probably represent, therefore, a desirable standard of attainment or guide for sixth-grade classes.

In making comparisons two other points should be kept in mind: first, the tests were given near the middle of a semester, more accurately, the latter part of April; and secondly, 72 per cent of the pupils tested were in Grade VIA, that is, high-sixth grade. This was due, of course, to the fact that in several of the selected sixth grades there were no lower divisions.

It is hoped the scale may serve a wider usefulness than the measurement merely of sixth-grade composition ability. If one were desirous of sampling the composition product of a school system and were limited to the measurement of one grade, no grade, probably, would be more satisfactory for this purpose than the sixth. The sixth-grade results in this case might be regarded just as Stone regarded the results from his sixth-grade arithmetic tests—as symptomatic for the school system.

Our debt to Thorndike and Hillegas, which will be apparent throughout our paper, we gladly acknowledge.

THE FEDERAL CHILD LABOR LAW

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The Federal Child Labor law passed by Congress last September will, when it takes effect in September, 1917, bar from interstate commerce the products of mines and quarries where children under sixteen years of age are employed, and the products of mills, canneries, factories, and workshops where children under fourteen years of age are employed, or where children between fourteen and sixteen years of age work more than eight hours a day or at night. The act is based upon what is virtually a new interpretation of the interstate commerce clause of the Constitution, for it is the only federal law whose ultimate effect is to regulate conditions of employment within the states. This effect is produced indirectly, because the wording of the law is not aimed straight at the conditions of employment, but at the market for products. However, in actual practice the effect of "Thou shalt not ship" is the same as that of "Thou shalt not hire." The employer is still free to employ children as he pleases, within the limits prescribed by the law of the state in which he operates, so far as his business in that state is concerned, but as he depends chiefly on interstate commerce to market his products, he is forced to comply with the federal law.

It will be observed that this law applies only to that phase of child labor which is found in the productive industries of manufacturing, mining, and quarrying. This limited application of the law is due partly to the public's correspondingly limited conception of the problem, and partly to the limitations of the interstate commerce clause itself as a means of attacking a national situation of this kind. According to our latest federal census the number of children ten to fifteen years of age employed in these industries is only 15 per cent of the total number of such children engaged in all gainful occupations, yet the popular conception of child labor

is almost entirely restricted to this part of the problem. When anyone mentions child labor, the average person immediately visualizes a scrawny, flat-chested, pale-cheeked little boy or girl standing by a spinning-frame in a southern cotton mill, or an overworked, dirty-faced lad in a West Virginia coal mine. The public is not yet familiar with the types of child workers in the more extensive fields of agriculture, domestic and personal service, trade, transportation, and public and professional service. While it cannot be said that this restricted popular conception was entirely responsible for the limited application of the federal law, inasmuch as the power of Congress to regulate interstate commerce could hardly be stretched to cover all these fields, nevertheless it is undoubtedly true that if public opinion had been as well developed concerning the abuse of children in these other phases as it was concerning their abuse in manufacturing and mining, some way of improving the whole situation through federal action would certainly have been found.

In fact, the freedom of the states to deal with any phase of the problem has not been much curtailed by this act. So far as child employment in manufacturing, mining, and quarrying is concerned, the four standards embodied in the federal law had already been adopted by most of the states; indeed, the federal law might be called a national ratification of the state regulations for these branches of productive industry. After the law takes effect, the states will continue to enjoy the right to correct or neglect the other forms of child labor as they see fit.

One of the reasons for the enactment of the federal bill was the demand for comprehensive and vigorous authority to deal with our widespread and baffling problems. This demand is expressing itself in the trend toward the centralization of power in the federal government. As a people we are gradually becoming more national as society becomes more complex, and as communication becomes more diffuse. As the life of the people reaches beyond state borders, a larger administrative unit is required for the satisfactory management of affairs. The effects of the European war have intensified the growing conviction that our labor problems are national and not local; we know now that the improvement of

conditions and the reform of administration are matters of concern to the people as a whole. National action is therefore demanded.

Another reason for the passage of the federal law was the cry for uniformity in legislation. Employers of labor have for many years contended that it is not fair to compel a man doing business in progressive states to comply with high standards while competitors elsewhere enjoy the advantage of cheap labor because of lower standards. The argument is advanced that if there were uniformity in labor legislation no injustice would result and no opposition would be offered to the adoption of very high standards; each employer simply wants to be assured that the other fellow is subjected to the same requirements as he is. However, if the federal law should be regarded merely as an attempt at uniformity, it could not be said to have accomplished its purpose. To try to achieve uniformity in legislation through federal acts, while the states are permitted to adopt standards higher than those set by the national government, would be altogether futile. Even today, months before the federal law is to take effect, several of the states already have more advanced standards than it fixes, and the employers of those states will continue to be at the same disadvantage as formerly, if operating under high standards can be justly termed a disadvantage. It is a foregone conclusion that some of the states will adopt varying standards above those of the federal law, while others remain content with the national act, and so the lack of uniformity will again be marked. The federal law simply establishes minimum standards for the industries affected, leaving the states free to exceed them as they may deem wise. Uniformity under this arrangement could not be attained unless all of the states agreed not to exceed the federal standards, and that, of course, is out of the question. But it was very necessary to oblige backward states to adopt the age limits and work hours for manufacturing and mining generally recognized as proper minimum standards, and in accomplishing this, if for no other reason, the federal law may be said to be a success.

There is still another reason for its passage, perhaps the most important of all, and yet one that has received little or no considera-

tion. It is the conviction that more effective administration would be secured through federal action. The national government is expected to enforce its laws better than the states have enforced theirs. Whether fortunately or unfortunately, nevertheless it is a fact that individuals and corporations stand more in awe of the federal government than of their municipal, county, or state governments. It is a more powerful agency and works more thoroughly and efficiently. The seat of federal labor inspection is farther removed from the places inspected, and therefore the inspectors are less likely to fall under local influences than are the officers of the minor governments. The variety of provisions for enforcement of state laws made by the different states is a very important element of the problem. The machinery provided varies with the nature and stage of development of the industries in each state, and also depends upon the extent to which the labor laws apply to these industries. For example, in Mississippi where the child labor law affects only mills, factories, and canneries, and where the number of such establishments is comparatively small, one factory inspector is charged with the duty of seeing that it is obeyed. In New York the child labor law applies to factories, stores, offices, restaurants, hotels, tenements, bowling-alleys, barber-shops, places of amusement, bootblack stands, mines, quarries, distilleries, breweries, to delivery and messenger service, and to newspaper selling, and there is required to insure its observance an elaborate organization which includes divisions of factory, mercantile, and homework inspection, employing 150 inspectors.

The prosecution of violators of the law is a vital part of administration, for if the courts do not support the inspectors by imposing the penalties prescribed for offenders, the whole system of enforcement falls to the ground. As the federal courts will have jurisdiction in cases of violation of the federal law, they will be confidently looked to for more effective handling of such cases than has characterized the action of local courts. Officers charged with the enforcement of child labor laws even in the most enlightened communities commonly complain that in some of the courts it is almost impossible to secure convictions for violation, and that, when convicted, the defendant is often either fined the minimum

sum fixed by law, or released under suspended sentence. The usual policy of labor inspectors is first to warn employers concerning breaches of the law, and to resort to prosecution only after repeated warnings have been disregarded and evidence of violation is clear and convincing. But when the employer is at last brought before the court, the chances are that he will be either dismissed with a warning, because "it is the defendant's first offense," or the minimum fine will be imposed. This minimum is often absurd, especially when the law provides that the offender shall be fined "not more than" a certain sum, in which event the court frequently fixes the amount at one dollar! For twenty years Connecticut has forbidden the employment of children under fourteen years of age in factories, and a violation of this law after such a long period of enforcement should certainly be looked upon as a flagrant offense meriting severe punishment; yet a manufacturer of paper in that state, who recently pleaded guilty to the charge of having in his employ two boys under this age, was fined just one dollar!

The annual reports of the New York factory inspectors invariably contain complaints about the failure of the courts in that section of the state where the canning of fruits and vegetables is an important industry to convict defendants even when they submit a mass of conclusive evidence. They assert that judges and juries in such communities will not uphold the labor law. At one cannery, under a single roof, the factory inspector found at work 180 children under fourteen, some of them under ten years; four different proceedings were instituted against the company for these violations, but in every case the complaint was dismissed. The chief inspector of workshops and factories in Ohio says that in his state the disregard of the courts for the labor laws is "most appalling"; many cases are dismissed, and, according to his latest report, even where convictions were obtained, 72 per cent of the fines imposed were either suspended or remitted. Ten different prosecutions for illegal employment of children are noted in an annual report from South Carolina, but only one was against an employer and that was promptly dismissed by the court. The other cases were against parents, who are as a rule ignorant, while the employer is usually intelligent, familiar with the laws, and certainly more

culpable. The federal law will doubtless work a much-needed reform, as it lays upon all United States district attorneys the duty of prosecuting violators in the federal courts upon the complaint of any federal, state, or local officer, or private individual, who may present satisfactory evidence of infringement. The prospect of acquittal through influence in the federal courts is far more remote than in local tribunals. The judges and prosecutors in the federal courts are appointed by the President and are therefore not concerned with local political situations, while, on the other hand, county and municipal magistrates are elected by vote of the people whom they are called upon to judge, and are frequently subject to the influence of local political organizations whose policy is largely dictated by the employing class. After the Federal Child Labor law takes effect, if a state inspector is unable to obtain a judgment against a violator, he may trace a shipment of goods from the establishment concerned into interstate commerce and then lay the matter before the United States Court through the district attorney. The situation can hardly fail to improve, as the chances for conviction are thereby greatly increased.

In addition to the removal of children under sixteen years of age from quarries and mines and of those under fourteen years from factories and mills, and the restriction of the work hours of children between fourteen and sixteen years of age in manufacturing establishments, the federal law will have a profound effect upon education. It will hasten the coming of the sixteen-year age limit for compulsory school attendance through its national indorsement of the restrictions upon the labor of children between fourteen and sixteen years, and for this reason will cause a quickening of interest in vocational education throughout the country.

It will not directly affect the situation where its four standards or others higher already prevail, as in Massachusetts, New York, New Jersey, Ohio, Illinois, Kentucky, Wisconsin, Missouri, and a few other states. As the laws of many states having mining and quarrying industries already forbid children under sixteen years to work in them, and as there are comparatively few children in the entire country employed in such industries, the federal act will not

alter conditions to any appreciable extent in this field. Most of the states also prohibit night work in factories by children under sixteen years; hence this provision will not have much effect.

The provision that will bring about a change is the eight-hour work day for children between fourteen and sixteen years; and especially will this be true in manufacturing states like Pennsylvania and Indiana, where such children now work nine hours a day; in Connecticut, New Hampshire, Rhode Island, Michigan, and Louisiana, where they work ten hours a day; in the Carolinas, Alabama, and Georgia, where their work day is eleven hours; and in West Virginia, where there is no limit whatever. Judging by experience in Massachusetts and elsewhere, many employers in these states will probably discharge the children concerned and endeavor to substitute in their places older persons, or machinery; if neither answers the purpose and the employers find that only children will meet their requirements, the children will be taken back and the employers will adjust their schedules of work hours to conform to the provision of the law.

Pennsylvania presents a unique problem in this connection. In that state children between fourteen and sixteen years who are regularly employed are required to attend continuation schools wherever such schools have been established, not fewer than eight hours a week between eight o'clock in the morning and five o'clock in the afternoon, but not on Saturday—in other words, the time for this schooling is taken out of their work hours. They must not be employed more than nine hours a day and fifty-one hours a week; hence the actual time given to work is forty-three hours a week. The federal law will oblige manufacturers to reduce the work day of such children to eight hours, so that even if a child puts in a full work day on Saturday, his actual work week will be only forty hours; and if he gets a half-holiday on Saturday, it will be only thirty-six hours. The situation in Pennsylvania is exceptional. If industry does not adjust itself to the requirements of the federal law, it may mean the exclusion of children under sixteen years from factories, mills, and workshops, but recent reports from that state indicate that the matter will be satisfactorily arranged without discharging the children. California, Massa-

chusetts, New York, and Ohio have laws providing for continuation schools and also limiting the work day of children to eight hours. Indiana and Wisconsin specify the eight-hour work day, but the former authorizes nine hours per day if the parents of the child consent, and the latter eight and one-half hours if a half-holiday is granted on Saturday. Pennsylvania is the only state having provision for continuation schools that does not in any way fix the work day of children at eight hours.

Admittance to the ordinary elementary schools will be sought by the majority of these children when they are discharged from the factories, mills, and workshops, and hence, for a time at least, there will be a corresponding decrease in the attendance of children between fourteen and sixteen years of age at continuation schools in those states where such schools are established. If the children resume their work in the factories, mills, and workshops, the continuation schools will again accommodate them, but it is not likely that the number of such children will be so great as formerly. The full-time day schools will probably attract and hold a larger percentage of the children under sixteen years than formerly. These children will make definite demands upon the schools which will have to be met.

At a recent conference on vocational education held in East Aurora, New York, it was declared that neither the present vocational schools nor the regular public schools devoted to general education are prepared to deal suitably with all the types of children seeking education. These types may be grouped roughly into two classes: those seeking general education and those seeking vocational education, and each class falls into two subdivisions. For those children needing general education, the regular public schools, diversified in character as needs develop, should take care of that group to meet whose requirements they are especially designed; and practical arts schools should be provided for that group that may be termed concrete-minded rather than academic-minded, but who, nevertheless, will profit most from general education. For those children needing vocational education the present type of full-time vocational school is well adapted to meet the requirements of those who have already determined upon their life-work

and are ready to enter upon a course of training; but there remains a group of children who are not ready to make an intelligent choice of life-work, and for such children there should be provided what might be called prevocational schools to afford them the experience through which they would be enabled to choose wisely.

In view of these facts it is clear that the passage of the Federal Child Labor law puts the task of providing different types of schools for the different types of children squarely up to the people. It will force the issue which has been pending for some time, and for this reason, if for no other, it will serve a useful purpose.

THE SUPERVISOR'S USE OF STANDARD TESTS OF EFFICIENCY

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This essay attempts to show how, in one case, standard tests are being applied to actual supervising practice. It describes eight months' practice in a school of fourteen teachers and four hundred pupils. The study was undertaken with a threefold purpose.

If standards or scales have any real value, they should be productive of better classroom teaching: First, teachers and even pupils should come to feel that education is a science; that we should endeavor to know rather than to guess. Secondly, if these standard tests do measure, why not use them in studying the individual child? The school is compelled to assume the problem of educational guidance. It can hope to succeed only in so far as it finds a scientific means of determining the child's several abilities. Thirdly, there is a something that men call public opinion. It confronts every administrator of schools. Its demands on the school are growing more and more urgent. The supervisor must have something tangible to prove his case. He must have more than his opinions to give the public. His work can be measured. It is his duty to explain his standards and interpret the results of his measurements in a way that the public will understand. The community has a right to know exactly for what it is paying.

The improvement of classroom teaching was the one aim in view when the first tests were given. To improve the teaching necessitated reaching the individual; this part of the study is only in its beginning. Reaching the public through the use of efficiency tests has proved an interesting experiment. The results and uses of the tests are described in the order in which the study developed.

ARITHMETIC

The Woody arithmetic tests were given in October to Grades II to VIII inclusive. Mr. Woody himself conducted the tests. He explained them to the teachers and aroused considerable interest on their part. The principal was surprised to see with what eagerness the teachers looked forward to obtaining the results. When the papers were scored, the principal prepared a chart of the results, which was hung in the office. This chart showed the number of rights for each grade on each problem. A teacher, at a glance, could see how her room compared on any problem with every other room. Teachers immediately began to analyze the results and to ask "why." They went over every problem that had caused difficulty and endeavored to find what there was in that particular problem that had troubled their classes.

It was found that problems written in a horizontal line caused more failures than those written in vertical columns. Teachers who had been in the school for some years said that they had never thought of drilling pupils on problems written horizontally. They arrived at the conclusion that there cannot be a too-varied form of attack in studying arithmetic. There was a general tendency not to reduce answers to the lowest terms. One or two classes decided that herein lay the difference between the fellow who drives a nail through and the fellow who drives it through and clinches it.

These informal discussions led to differences of opinion among the teachers as to the best methods or devices for teaching certain steps in arithmetic. One teacher asked for a teachers' meeting to discuss these questions. The meeting was called. What transpired may be shown by a specific example. One teacher asked the teacher of the grade below her how she taught the placing of the decimal point in division of decimals. It was soon discovered that there were three distinct methods or devices practiced by the five teachers. This point is merely illustrative of the general trend of the meeting. It resulted in a better unity throughout the school in the teaching of arithmetic. Teachers saw the necessity of keeping in close touch with what the teachers below them and the teachers above them were doing in every subject.

Teachers began to devise methods for obtaining speed and accuracy. It was generally agreed that throughout the grammar grades a certain time should be set aside for such drill. One teacher worked out a series of tests that were as nearly of the same difficulty as she could devise, and, in addition to the weekly drill, gave a review test on a certain Monday of each month. She gave graph paper to each pupil, who kept a graph of the results of the work throughout the year. One of the tests is given in Table I. Probably the best result obtained from this device was the incentive given the pupil to improve his own record.

TABLE I

ARITHMETIC, GRADE VIII, MONTHLY TEST FOLLOWING UP WOODY TEST

I

Add

23475
69083
83498
64257
38496
78254

II

900,000 − 648,379

43,086 − 19,497

7864 + 3976 + 5897 + 8032 =

III

37869 × 438

4069 × 403

IV

68,394 ÷ 72 =

98,659 ÷ 862 =

V

$\frac{1}{3}+\frac{1}{7}=$
$\frac{2}{5}+\frac{1}{3}=$
$\frac{2}{3}+\frac{4}{5}=$
$\frac{1}{16}+\frac{3}{8}=$
$\frac{2}{3}+\frac{1}{3}=$

VI

$1\frac{5}{6}-\frac{3}{4}=$
$\frac{2}{5}-\frac{3}{8}=$
$\frac{1}{2}-\frac{1}{2}=$
$\frac{1}{2}-\frac{1}{4}=$
$\frac{1}{5}-\frac{1}{10}=$

VII

$\frac{1}{2}\times\frac{1}{2}=$
$\frac{1}{2}\times\frac{1}{4}=$
$\frac{2}{3}\times\frac{2}{3}=$
$2\frac{1}{2}\times\frac{1}{4}=$
$\frac{3}{8}\times\frac{1}{2}=$

VIII

$124\frac{3}{4}$ − $3\frac{1}{2}$

$150\frac{3}{4}$ − $27\frac{3}{4}$

IX

$\frac{7}{8}\div\frac{2}{3}=$
$8\div\frac{4}{5}=$
$3{,}648\div50\frac{2}{3}=$
$15\frac{3}{8}\div5=$

X*a*

.008 ÷ 800 =
.25 ÷ 250 =
.84 ÷ .021 =
10 ÷ .1 =

X*b*

$\$600 \times .16\frac{2}{3}=$
$12\frac{1}{2}\times.12\frac{1}{2}=$

The results of the tests carried over into monthly tests and mid-year examinations. For example, a new teacher gave an arithmetic examination in parts of which more than half her class failed. One part in question was addition of complex fractions. She was asked her purpose in giving the test. Her answer, of course, was that she wanted to find just what her class knew of addition of fractions. She was then asked how much she had learned of the ability of the weaker part of the class in this work. She admitted, "nothing." After looking over a sheet of the Woody arithmetic scale she went back to her room and prepared another test, the results of which gave her a very definite idea of the strength and weaknesses of each pupil in the class. This method of preparing tests was emphasized more or less throughout the school.

Some six weeks after the Woody tests were given, two teachers came to the office and asked if it would be possible to obtain the results of the tests for each child. That was the beginning of the study of the individual child throughout the school on the part of supervisor and teachers. Out of it gradually grew the idea of measuring the child's several abilities in a more accurate way than can possibly be done by teachers' quizzes and examinations.

It was intended to give all the tests again in May. The results for addition and multiplication are included in this report. In Table II the median rights for the October tests are given in the first horizontal line, and the median rights for the April tests in the second line.

TABLE II

	Grade						
	II	III	IV	V	VI	VII	VIII
Addition	6.5	12.7	16.9	22.6	30.0	31.2	33.0
	10.3	16.5	24.1	24.2	29.0	31.6	.....
Subtraction	5.9	10.8	13.7	18.7	23.0	23.8	26.6
Multiplication	.....	3.3	8.6	14.5	22.2	26.5	29.8
	.....	.....	19.2	16.5	28.0	29.6	.....
Division	.....	.....	8.5	14.0	19.9	21.7	26.0

The distribution of rights in multiplication tests is given in Table III.

TABLE III

WOODY MULTIPLICATION TESTS. DISTRIBUTION OF RIGHTS IN GRADES IV–VII

RIGHTS	GRADE							
	IV		V		VI		VII	
	Oct.	Apr.	Oct.	Apr.	Oct.	Apr.	Oct.	Apr.
37								1
36							1	
35						1		1
34						1		3
33						2	1	3
32					1	4		4
31					1	2	1	4
30						2	3	
29						3	4	3
28						2	4	2
27				1	2	1	2	1
26		2			2	4	2	5
25		1			4	4	2	4
24					4	1	3	1
23		2			2	2	2	1
22		2		1	2			
21		5		3	2	1	4	
20		5	1	3	4	1	2	1
19		4	1	1	2	1		
18		2	1	2	1		1	
17		3	2		3	1		
16		2	2	6	2	1	1	
15	1	2	2	5	1		2	
14		1	4	3	1			
13	2	1	1					1
12	3	3	1		1	1		
11	2		3					
10	3	1	2					
9	2	3		1				
8	6	2		1	1			
7	1		1	1				
6	1		1	1				
5	5							
4	5							
3	3							
2	1							
1								
0			1					
Total cases	35	41	23	29	36	35	35	35
Median	8.6	19.2	14.5	16.5	22.2	28.0	26.5	29.6

A study of Tables II and III indicates which teachers have proved more successful in drilling on the fundamentals. Those who were fortunate in arousing the interest of pupils and in finding new

schemes for securing classroom results found their test record improved. The figures given in the tables are a fairly accurate record of the comparative progress made in the respective grades.

LANGUAGE

The Trabue language scale B was given next to Grades IV to X inclusive. The papers were scored according to the method given by Trabue, namely, two points for each right, one point for each sentence almost right, no value to those attempted but wrong. The distribution of scores per grade is given in Table IV.

TABLE IV

Score	Grade						
	IV	V	VI	VII	VIII	IX	X
20	.....	.....	.....	.....	.....	2	.....
19	.....	.....	.....	.....	.....	5	.....
18	.....	.....	1	3	6	1	4
17	.....	.....	.....	1	3	5	6
16	1	.....	2	8	3	7	4
15	.....	1	2	3	4	4	.....
14	4	2	3	8	5	.....	1
13	3	2	2	5	4	.....	1
12	6	8	11	3	1	.....	.....
11	3	5	4	1	.....	.....	.....
10	10	5	6	.....	.....	.....	.....
9	.....	2	2	1	.....	.....	.....
8	5	1	3	.....	.....	.....	.....
7	.....	1	1	1	.....	.....	.....
6	5	1	1	.....	.....	.....	.....
5	.....	.....	.....	.....	.....	.....	.....
4	1	1	.....	.....	.....	.....	.....
3	.....	.....	.....	.....	.....	.....	.....
2	1	.....	.....	.....	.....	.....	.....
Number of cases	39	29	38	34	26	24	16
Median	10.8	11.8	12.2	14.8	15.9	17.3	17.4

Language scale L was given to the third- and fourth-year high-school pupils. Distribution of the scores follows:

	Score															
	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Distribution	...	1	4	2	1	1	1	2	1	2	1	...	...	...	...	...

Table V gives the further results of the tests.

TABLE V

COMPARISON OF RANKS

	Pupil								
	A	B	C	D	E	F	G	H	I
By rhetoric teacher	4	8	1	3	13	16	11	17	12
By literature teacher	2	.....	1	5	8	16	7	14	10
By Trabue language scale L	6.5	.....	3.5	3.5	14.5	16	9	10	13

	Pupil								
	J	K	L	M	N	O	P	Q	
By rhetoric teacher	9	15	7	10	2	6	14	5	.....
By literature teacher	13	15	9	12	4	6	11	3	.....
By Trabue language scale L	1	14.5	3.5	11.5	6.5	11.5	8	3.5	.....

Probably the main value of the language test came from the incentive it gave to find other means of analyzing the child mind. Why did one boy in Grade IV score two points and another boy sixteen points? Why did one girl in Grade VI score as high a mark as the best of the second-year high-school students, while thirteen of her classmates did poorer than the median of Grade IV? A study was begun of the pupils who made erratic scores. The pupils were ranked and their relative position in the class compared with their rank in every other test: composition, spelling, arithmetic, reading. If the child ranked low in any particular subject, his class standing was determined from the teacher. Oftimes, a little special attention helped the child out of his difficulty.

SPELLING

The Ayres scale was used in testing spelling. The first test was given late in January. It consisted of 25 words for each grade taken from a list on the scale approximating an average difficulty of 90 for that grade. This test was followed by others at intervals of from two to four weeks. Altogether the results of four tests are used. The lists used in each grade ranged from difficulty 86 to 96 for that grade. Breaking the spelling tests into four parts gave certain advantages. It neutralized the danger of erratic scores,

gave an opportunity to check the reliability of the scale as a means of measuring spelling ability, and overcame the administrative difficulty of having every pupil present for the test.

The four marks for each pupil were averaged as his spelling mark. The four standard or scale marks for the class were likewise averaged. This mark is the basis of comparison in the tabulations of Tables VI and VII.

TABLE VI

SPELLING

	Grade						
	II	III	IV	V	VI	VII	VIII
Scale standard	87	90	92.5	92.5	91.5	91.5	92
Class median	92.5	97	96.5	86.5	88.5	90.5	92
Class average	86.6	87.7	90	80.8	85.7	85.3	88.7
No. of cases	35	33	43	33	40	40	31
Percentage of cases below scale standard	35	30	37	81	55	52	48

TABLE VII

DISTRIBUTION OF SPELLING MARKS

Grade	Number of Cases	0–50	51–60	61–70	71–80	81–85	86–90	91–95	96–100
II	35	2	2	1	2	4	7	4	13
III	33	3	0	2	2	1	4	4	17
IV	43	1	3	2	3	3	2	4	25
V	33	1	3	3	3	6	7	7	3
VI	40	1	3	2	4	9	2	7	12
VII	40	1	2	2	7	2	6	7	13
VIII	31	0	1	4	2	3	3	8	10

Tables VI and VII show at a glance the status of spelling in the whole school. No room made an average equal to the scale standard. The median of one grade is equal to the standard for the grade, three medians are below, and three above. The fourth grade had 25 pupils out of 43 to score 96 or above; yet 4 fell below 60, and 37 per cent of the class fell below the standard. Grade V made an exceedingly poor record as a class. Grades VI, VII, and VIII did not make as good a record as they should have made.

Approximately one-third of the pupils in Grades II, III, and IV were below standard.

The spelling tests gave a new impetus to the teaching of spelling. Teachers began to work for better class results, and to give more attention to the poor speller. One teacher said that the tests aroused more interest in spelling among her pupils than anything she had been able to do. Practically every device that could be found which seemed worth trying has been utilized. The words for each grade have been more carefully classified, and greater care has been taken in selecting words from the daily class work. The scale will, after a time, be largely useless to us as a scale, for teachers are drilling their pupils on every word that they miss in the tests; but, if these children master the 1,000 words used most often in the English language, they will have accomplished something worth while.

For several years spelling has been a required subject in high school. A list of 50 words, 25 from column T and 25 from column U of the Ayres scale, was given to Grade VIII and to the high school. The standard for Grade VIII is 86. Distribution by classes is given in Table VIII.

TABLE VIII

DISTRIBUTION. HIGH-SCHOOL SPELLING MARKS

Year	Number of Cases	Class Median	Class Average	-50	-60	-70	-80	-85	-90	-95	-100
VIII..	27	86.6	81.5	1	2	4	3	2	7	3	5
IX....	24	96	93.5	.....	.....	.....	1	1	4	6	12
X.....	16	98	96.5	.....	.....	.....	.....	.....	2	4	10
XI....	9	96.3	95.3	.....	.....	.....	.....	.....	.....	4	5
XII...	8	98	95.0	.....	.....	.....	.....	1	1	1	5

The distribution in Table VIII indicates that the special attention given to spelling in the high school is productive of good results.

COMPOSITION

More attention was given to the test in composition than to any other subject. Compositions were written by all pupils in Grades IV to X inclusive. The subject given was, "My Twenty Dollars."

The written instructions handed to each teacher to give to her class were:

1. Distribute one sheet of paper to each pupil.
2. Have pupils write subject on first line.
3. Say to class: (*a*) "Imagine that you have $20 to spend as you please, and that you want to spend it among four of your best friends." (*b*) "Write a composition of about one page, telling how you spent it."

Before giving the subject, teachers and principal had studied the scale together. On the day following the writing of the compositions, in those grades above the sixth, the teacher handed a copy of the Hillegas scale to each member of the class. They read together the successive compositions on the scale and discussed the defects and the increasing merits of each step. Then each pupil was asked to score his own paper. Later the teacher scored the papers and sent them to the supervisor. The latter scored each paper of Grades IV to VIII inclusive. His assistant scored the high-school papers under the supervisor's direction. The agreement of the supervisor's and teachers' scores for the different grades is indicated in Table IX.

TABLE IX

COMPARISON OF SUPERVISOR'S AND TEACHERS' COMPOSITION MARKS

	Grade					
	IV	V	VI	VII	VIII	IX–X
Number of cases.....	37	33	36	38	31	41
Difference 0– 4 points...	1	10	16	12	6	27
Difference 5–10 points...	4	12	12	14	9	12
Difference 11– points...	32	11	8	12	16	2

After comparing the marks as given in Table IX, the supervisor read each set of papers with the teacher who had scored them. The wide difference in marking fourth-grade papers was due to two or three causes. The supervisor unconsciously looked for the thought, the language expression of the high-school student. The teacher had emphasized short, clear sentence expression. She probably gave undue weight to the simpler child thought; in other words, she scored a composition 40 in Grade IV, which she probably

would not have given more than 25, had it been written by a high-school pupil. The wide difference in Grade VIII is due to the teacher of the class marking on a lower basis than any other teacher in the school. The high-school teacher has had the Hillegas and Thorndike scales in her room throughout the year. She has trained her class in using them until the students can give quite an accurate judgment of their own papers.

The supervisor and teacher together worked out the final score for the papers on which they had disagreed by more than five points. This score was placed on record as the school's judgment

TABLE X

VARIATIONS IN MARKING COMPOSITION PAPERS

GRADE	AVERAGE DEVIATIONS FROM FINAL SCORES			EXTREME DEVIATIONS FROM FINAL SCORES			
				Supervisor		Teacher	
	Pupil	Supervisor	Teacher	−	+	−	+
IV	.....	−9.9	9.7	20	3	20	35
V	.....	−2.8	.1	17	6	37	22
VI	.....	−0.2	3.9	14	8	6	25
VII	8.1	2.4	−4.2	10	8	24	7
VIII	5.7	4.4	−6.5	4	15	4	21
High school	3.6	2.0	.2	5	14	5	5

of the child's ability in composition. In arriving at this final score, thought expression was given primary consideration, although the final scores of Grade IV may be an exception to the statement. Table X is a crude attempt to show the range of marking of each scorer from the final mark and to indicate how teacher and supervisor influenced each other's judgments in making out the final score.

Table XI is the record sheet for the seventh-grade class. It illustrates the method used in each class.

In scoring papers teachers and supervisor interpolated the scale quite freely; but before the work was completed there was a question as to whether anything had been gained by interpolation. In distributing the scores in Table XII, the final marks were tabulated under their nearest scale values.

The high-school papers were written by first- and second-year pupils.

TABLE XI

COMPOSITION RECORD SHEET. GRADE VII

Boys					Girls				
Pupil	Marks				Pupil	Marks			
	Pupil	Principal	Teacher	Final		Pupil	Principal	Teacher	Final
D. A.	26	47	36	43	A. B.	47	65	47	65
C. B.	18	36	47	44	E. B.	36	55	47	32
R. F.	36	40	36	38	C. B.	26	40	26	37
R. F.	67	45	26	38	E. C.	36	58	47	53
W. H.	36	65	58	60	A. G.	67	67	67	67
A. J.	.....	79	70	70	M. H.	36	47	47	47
C. K.	36	50	47	48	N. M.	47	45	36	40
E. K.	26	45	47	46	M. O.	18	50	36	42
H. K.	36	37	36	37	L. R.	36	45	47	46
W. M.	18	50	47	48	A. R.	47	36	47	40
G. L.	36	55	47	52	E. S.	26	45	26	38
F. O.	47	58	58	58	I. W.	47	65	47	60
A. P.	26	38	21	30	F. T.	69	58	47	58
H. P.	.....	63	.....	63					
W. P.	26	27	36	37					
W. S.	.....	45	47	46					
W. S.	36	48	47	48					
W. S.	26	50	26	40	Teacher—				
D. S.	47	40	36	38					
T. S.	37	40	36	37	Date—January, 1916				
T. S.	47	45	36	40					
P. T.	47	55	47	50					
R. T.	36	65	47	60					

TABLE XII

DISTRIBUTION. FINAL COMPOSITION MARKS

Grade	Number of Cases	Median Final Score	0	183	260	369	474	585	675	772
IV.	34	35.9	1	3	6	19	5	.....	.....	.....
V.	33	38.6	.....	2	11	10	7	1	2	.....
VI.	35	40.7	.....	.....	4	14	11	6	.....	.....
VII.	39	47.0	.....	.....	1	12	12	9	5	.....
VIII.	31	47.0	.....	.....	1	13	6	7	4	.....
IX–X (High school)	41	67.2	.....	.....	.....	1	0	14	17	9

Working out the final scores with teachers gave the supervisor the best opportunity to study the teaching of composition through-

out the school that he had found during the year. In scoring 30 or 40 papers he learned the qualities of composition for which each teacher was working; found where teachers were slighting the work; discovered their methods of teaching and of marking papers; and observed their respective interests in their pupils. This method gave the supervisor an opportunity to impress on teachers—often through their own suggestions—certain ideas that he could not give so effectively in any other way. Teachers freely admitted that they had scored papers on their prejudices rather than on the merits of the composition. They saw how wide a range of difference there may be between the marks of any two teachers on the same paper, and that a teacher can seldom give the same paper the same mark at two different scorings. A school should work for a uniform standard of marking. Because of the erratic judgment of teachers, if for no other reason, a final examination is not sufficient for the judgment of a child. A pupil's fault in composition may be analyzed through the use of the Hillegas scale. The teacher can help the child as an individual even through class instruction. Older pupils may be made interested in education as a science.

Through reading these compositions the supervisor had an opportunity to study the social life, home influences, and ideals of his pupils. It seems probable that through a series of such compositions a school might glean a knowledge of the children within its walls that would aid materially in their educational guidance.

WRITING

A copy of the Thorndike handwriting scale is found in each room of the upper grades. One teacher has supervision of all writing in the school. When a pupil can score 13 in his ordinary writing on the scale, he is excused from penmanship, unless he wants to take the work. Use of the handwriting scale by pupils and teachers is part of the daily work.

READING

Teachers asked for a test in reading. The Thorndike reading scale was used in April. Scale Alpha 2, Part I, was given to Grades IV and V. Parts I and II to Grade VI; Part II to Grades

VII and VIII; Part I, Sets I, II, and III, to Grade III. The preliminary sheet for Scale Alpha 2, together with Set I, Difficulty 4, was given to Grade II. The following results were obtained for Grade II:

	Number of rights score												
	12	11	10	9	8	7	6	5	4	3	2	1	0
Number of pupils per score	21	9	2	....	....	4	....	....	3	1	....	2	1

In scoring the reading papers strict adherence was given to the answers suggested by Thorndike in the *Teachers' College Record* for November, 1915. The results for each class were placed on a record sheet for Thorndike reading scale, Alpha 2. Two methods of tabulating were used. One method merely counted the total number of answers right for each pupil; the other placed each pupil in that highest difficulty class where he approximately had 80 per cent of the answers right.

TABLE XIII

DISTRIBUTION OF PUPILS ACCORDING TO DIFFICULTY IN READING

GRADE	NUMBER OF PUPILS	DIFFICULTY						
		Less than 4	4	5.25	6	7	8	8½
II	43	21	22	15	.....	.....	.....	.....
III	34	3	10	15	6	.....	.....	.....
IV	39	1	4	15	12	7	.....	.....
V	32	.....	1	16	10	5	.....	.....
VI	37	.....	.....	5	11	18	3	.....
VII	34	.....	.....	4	15	14	1	.....
VIII	22	.....	.....	.....	5	9	7	1

The method of scoring each pupil by the number of rights for a certain part of the scale seems to give the best measure of the child's reading ability. On this score the class is ranked in reading, and these ranks were used in comparing the child's rank in reading with his rank in other subjects.

It will be advisable to give this test again next year and to combine the scores of the two tests for each child as the indication of his ability in reading.

The presentation of the results of standard tests to the public was undertaken in two ways. The supervisor each month gave a report of school affairs to the board of education. A copy of each report was printed in the local paper. The report was prepared for the purpose of keeping the public informed of what the school was trying to do. The first mention made of the use of scales and tests was in a special report on the question of vocational and educational guidance. The Ayres spelling scale and two or three other scales and tests were described somewhat in detail.

TABLE XIV

READING. THORNDIKE TEST
PERCENTAGE WRONG FOR EACH SET AS A WHOLE

Grade	4			5.25				6						
	1	2	3	1	2	3	4	1	2	3	4	5	6	7
III	3	11	6	29	6	14	26	61	30	35	73	56	73	69
IV	5	7	0	25	2½	7	2	51	33	16	33	40	48	51
V	6	3	0	9	3	15	3	48	34	3	28	34	25	31
VI	0	0	0	3	0	5	8	14	8	8	3	14	8	34
VII	....	....	....	....	....	....	....	....	....	....	....	....	....	....
VIII	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Grade	7							8							
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
IV	69	51	61	30	69	49	56	....	....	....	....	....	....	....	....
V	60	56	56	25	65	65	56	....	....	....	....	....	....	....	....
VI	40	14	37	5	22	24	14	....	....	....	....	....	....	....	....
VII	50	21	44	15	28	34	37	48	25	50	55	52	58	85	82
VIII	13	18	31	9	4	13	31	13	27	22	27	36	22	54	40

The monthly report following the one mentioned above was given to a discussion of the results of the Trabue language test B. Particular attention was given to the erratic scores and their indication of backward and accelerate pupils. Attention was also called to the possibilities of educational guidance through the use

of scales and tests. The president of the board remarked, "That is just the thing we have been waiting for." There was much more expression of interest from the board than there had been toward any previous report. At another meeting the supervisor's report centered about the algebra tests (on account of its length the discussion of the algebra tests is omitted from this paper). Charts giving the results from eight different schools were shown. They could see at a glance how their own high school compared with others. Another chart was used as the basis for explaining the attempt of the teacher and the supervisor to work over and improve the algebra course. Board members entered freely into a discussion of algebra teaching. The discussion lasted more than an hour—a feature of school-board meetings not usually found. Another meeting was given to the results of the Woody arithmetic tests; another to spelling, and to the correlation or comparison of the results of the various tests.

Through the newspaper reports people of the community became interested in the work. Many came to the school and asked for the results for their own children. The Home and School Association asked the supervisor to explain the work to the mothers, especially in its bearing on educational guidance. Such opportunities gave the supervisor a chance to gain the confidence of the public and also to explain the school's work in such a way as to gain a superior type of home and public co-operation.

No doubt the most concrete and helpful influence of the use of these standards in dealing with the public came through contact with the individual parent. The school had developed a close contact with the home. Throughout the year the supervisor was confronted with parental complaints concerning the marks given to pupils. The parent invariably came feeling that the teacher had permitted a personal prejudice to enter in giving the child his marks. The supervisor sought to overcome this personal prejudice by securing an estimate of the child's ability in various subjects which would be entirely independent of the teacher's judgment. He found that he could explain most of the tests quite readily to parents. The parent could see (for instance, in arithmetic) just

how his child compared with other children of the class, and, specifically, where his child had difficulty with the test. He could see for himself a result that was in no way affected by the teacher's opinion. The interview invariably gained the confidence and closer co-operation of the parent. If the school had found no other use for the results of the standard tests than the one just mentioned, they would easily justify their use in the school that stands close to the public.

The tests prove useful in gaining a quick estimate of the ability of a new pupil. Scarcely a week goes by that new pupils do not enter the school. Often a new pupil has come from a different type of school or a school graded on a different basis. The teacher, some time during the first week, excuses him from a class recitation, gives him a test paper, and, after gaining his confidence, asks him to do his best on it. While the child's grade has in a few cases only been changed, yet the teacher has found his strong and weak points and knows better how to fit him into her regular class work.

Another practical use has been in determining promotions and demotions. If a child in any grade fell considerably below the median of the class below him in most of the subjects, his classroom work was examined closely. If there could be found no way to help him from his difficulty, he was placed in the lower class. While only a few have been demoted, there are several others in the school who cannot make one grade each year. Some provision will have to be made for caring for them. It is hoped that we can work out a scheme whereby the slower pupils may have a longer time to complete the course and yet not have to be failures or repeaters.

The bright pupils need, if anything, more attention than the slower children. On the basis of these tests during the year several pupils have been permitted to skip a grade: there were four from the third grade, two from the fourth grade, one from the fifth, and one from the sixth grade. There are 18 others who are receiving special attention from teachers in order that they may be able to do three years' work in two years. They are distributed: four

from the second grade, two from the third grade, six from the fourth, two from the fifth, three from the sixth, and one from the seventh.

Arrangements have been made whereby one teacher can give at least one-third of her time next year to the coaching of accelerate and backward children. She will take special training during the summer for the work, and will co-operate with the regular teachers in caring for these special pupils. The majority of her time will be given to the brighter pupils. The Chatham School hopes, from the small beginnings it is making, to work out a promotion system

TABLE XV

EFFICIENCY TEST RECORD SHEET. GRADE IV, 1915–16

Pupil's Number	SPELLING				COMP.	LANG.	ARITHMETIC				RDG.
	Scale Standard				Class Median						
	96	94	92	88	35.9	10.8	A. 16.9	S. 13.7	M. 8.5	D. 8.5	Rts. 14.4
2	100	98	96	88	30	8	22	19	5	12	10
3	68	74	80	72	40	8	17	17	10	12	13
5	72	86	84	80	32	6	7	12	4	0	14
6	52	34	52	24	30	6	12	10	8	7	4
9	100	97	96	100	32	14	9	16	18	11	16
13	100	100	100	100	36	16	19	15	9	11	20
14	84	78	76	28	35	2	19	19	8	12	9
15	92	80	84	68	45	12	20	19	3	0	17
28	100	100	100	100	38	14	21	14	12	11	19
33	88	80	88	80	26	6	15	10	5	1	6
41	84	84	64	56	38	8	16	9	4	5	8
42	.....	.....	100	100	40	15	23	21	21	21	20

elastic enough to satisfy the needs of every child. The success of the plan will depend entirely on the school's ability to reach the individual.

The records for each class in all tests during the year have been kept on a single class record sheet. A few individual records from the record sheet of the fourth grade class make up Table XV. They illustrate how the child's several abilities may be studied. Pupil 13 is strong in every test. He will do three years' work in two years. Pupil 33 is weak in every test; she is slow; apparently there

is no way whereby the teacher can keep her from becoming a backward pupil. Pupil 15 is erratic in everything he does. One spelling mark is 92; another, 68. In addition he scored 20, and in division 0. Pupil 14 is weak in reading, spelling, and language. He shows up well in composition and arithmetic. After six months of careful watching his teacher believes him a good student in anything that requires thinking, but regards him as exceedingly poor in any subject that requires interpretation of the printed page. The record of each individual pupil indicates strength or weakness in each of the several abilities tested. The value of the record lies in the testing out in the classroom of the facts it seems to indicate. There is reason to believe that such a study may prove the basis of a work in educational guidance.

One set of tests would not be a fair means of judging a child's future. Successful educational guidance will require a study of the individual child covering several years. The work would begin with certain mental tests in the earlier school years. In about the fourth grade, the pedagogical tests would begin; these tests would be repeated in various forms throughout the following years. The results of all tests would be checked back against the child's classroom work by teachers and supervisors. By the end of the sixth year the school ought to have a definite idea as to the field toward which the child should be guided in his high-school work.

Standard tests have proved an effective means in supervision. Through their use teachers are improving the technique of their method and exercising a nicer judgment in the selection of subject-matter. Pupils are working to exceed their own record. Teachers and older pupils are coming to understand the scientific idea of education as it applies to the ordinary classroom. In no other way could the principal gain so close a knowledge of each individual child in the school. This knowledge is serviceable in placing new pupils, in determining promotions, in selecting accelerates and defectives, in searching out the special difficulties of the individual, and in gaining the co-operation of the parent. The results of the tests have proved of interest to the public. On the basis of these results the board of education has employed a teacher to give approxi-

mately one-third of her time to the testing and supervision of work with special pupils. The school has made a start in the study of its children that will eliminate a large part of the wasted time and effort that results from the choice of the wrong high-school course. During the coming year standard tests will be used more systematically to gain desired results in the supervision of the Chatham School.

A PLAN FOR DEVELOPING A SPELLING CONSCIOUSNESS

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In teaching spelling we have recognized the importance of developing (1) accurate sense imagery (especially visual imagery) and motor habituation in writing the words, which finally results in automatic spelling; (2) a spelling consciousness, which leads the pupil to detect his own errors in spelling; and (3) a desire for good spelling, which results in the careful use of the rules of spelling, other known forms of the words to be spelled, and the dictionary. Methods have been devised to secure automatic spelling, but little has been done to develop conscious spelling and a desire for good spelling. Of course, one is not a good speller until his spelling is reduced to habits requiring little, if any, conscious direction. But conscious direction, coupled with a desire for good spelling, is needed in initiating and making secure correct spelling habits.

By spelling consciousness I mean that consciousness which helps one to detect and correct one's misspelled words and not to misspell the same words again. In practical life, use is the test of good spelling. That person is a good speller who can spell the ordinary words which he needs to use in his letter and composition writing and who doubts the words he cannot spell and ascertains the correct spelling before writing. That person is on the way toward good spelling who has developed a spelling consciousness, i.e., who doubts the spelling of the words he ought to doubt and who checks up his spelling by such means as other known forms of the words doubted, the rules of spelling, and the dictionary, without referring to these sources repeatedly for the spelling of the same words.

The choice of words.—That pupils ought to be able to spell automatically all common words used by them in their composition and

letters is generally accepted, but what other words, if any, they should be able to spell automatically is not well established. There is, without doubt, a distinguishable difference between the number of words used by the child in his composition writing and the number he would use if he were made familiar with the spelling of more words. If the pupil were required to spell the common words used in his spoken vocabulary as well as in his reading, is it not reasonable to suppose that the increase in his written vocabulary would be accelerated? But, first of all, the pupil should master the spelling of those words which he uses frequently in his compositions, and these may be supplemented by words chosen from his oral and reading vocabularies. All technical words which he needs to write in connection with his history, geography, science, arithmetic, etc., should be learned in connection with the lessons in those branches. Moreover, all teachers in all branches requiring composition should be constantly on the alert to secure good spelling in the common words used. Accurate individual lists should be compiled from the misspelled words as they occur in the pupil's written lessons in history, geography, etc., and these lists should not be abandoned until they are reasonably well mastered. This work should all be done in the time allotted to the teaching of the several branches.[1]

However, experience seems to show that words selected for spelling exclusively on this plan, although better than the traditional compilation of the old spelling-book, needs supplementing by more inclusive word-lists and by regular exercises in spelling. For the work of the regular spelling periods it would be a good plan to have the pupils spell in sentences the words of the graded lists found in Franklin W. Jones's *Concrete Investigation of the Material of English Spelling*, and also by the words of Ayres's[2] lists not found in Jones's. These lists are very important, because they have been made up from a large collection of misspelled words used by children in a large number of school systems, and the Jones lists are especially important because they have been graded.

[1] Suzzallo, *The Teaching of Spelling*, pp. 15–29.

[2] Leonard P. Ayres, *A Measuring Scale for Ability in Spelling.*

Automatic spelling.—Words should usually be spelled in sentences, because that is the way that children as well as grown-ups usually use spelling. Moreover, when the pupil learns to compose well, his attention must not be centered upon the spelling of words. He must keep up with his thought, even at the risk of misspelling words. The spelling test of the composition is a test of the pupil's spelling habits. It follows then that his spelling should have approximately the same speed as his writing. The average writing speed of a class should be determined and used in a plan similar to that of the "Courtis Standard," "Folder B. Series S." Better still, the average speed of the upper and lower halves of grades as determined by Frank N. Freeman could be used and modified to suit the needs of the particular class. Freeman's standard writing speeds are shown in the following table:

AVERAGE SPEED OF UPPER AND LOWER HALVES OF GRADES IN ALL THE SCHOOLS INVESTIGATED*

(The figures in the table represent the average number of letters written per minute)

	School Grade						
	II	III	IV	V	VI	VII	VIII
Average of upper half	35.4	47.7	56.2	64.9	69.2	73.4	77.8
Average of all	30.6	43.8	51.2	59.1	62.8	67.9	73.0
Average of lower half	24.4	37.4	43.4	49.9	52.8	58.5	61.2

* Frank N. Freeman, "Handwriting," *Fourteenth Yearbook of the National Society for the Study of Education*, Part I, p. 63.

Conscious spelling.—So far our discussion follows the best practice of the present time. Our plan is different only in proposing in addition to present practice a scheme for developing a more accurate spelling consciousness.

When the spelling sentences have been written, each pupil should be required (1) to mark each word, the spelling of which he doubts; (2) as far as possible he should test the validity of his doubts by known means outside of the dictionary, finally checking up all doubted words by using the dictionary; and (3) he should

write all of the misspelled words which he has thus detected correctly spelled in separate lists; (4) at this point the pupils' papers should be exchanged, the teacher spelling all words and the pupils marking those found to be misspelled on the papers; and, finally, (5) when the papers are returned to their owners, the additional misspelled words discovered should be added to their individual lists.

The pupil's sentence spelling should be scored by the teacher on the basis of the correctness of his doubts as well as upon the number of words spelled correctly. Until a scientific determination can be made, *the spelling of words correctly* and *doubting correctly* should be each scored on the basis of 100 per cent. The pupils should be scored down (1) for doubting words spelled correctly and (2) for not doubting words spelled incorrectly.

Portions, at least, of the several individual lists formed in connection with the sentence spelling above described should go back into the general class lists to be spelled over again. How many, or whether all, of the words of these individual lists should be spelled again and again by the whole class is difficult to determine in the absence of the concrete situation. To say that only those words missed in common by the pupils should make up the class lists would be to undervalue the effectiveness of repetition in forming spelling habits. On the other hand, to keep all the members of the class spelling certain words until no one misspelled them would be wasting time for the good spellers. It seems important, therefore, that emphasis should be placed upon individual spelling in connection with class spelling and that a reasonable amount of repetition should be provided in spelling words correctly. The individual lists should be used by the pupils at all times when checking up the words of their compositions, and the teacher should be on the alert to make this work effective.

The desire for good spelling.—Every opportunity should be seized to develop the pupil's desire for good spelling. The teacher's insistence upon a reasonably high standard of spelling efficiency should develop the pupil's desire for good spelling. Any method which causes the pupil to be attentive to the correctness of his spelling and which stimulates a pride in spelling correctly is helpful.

The school paper in which the pupil's compositions appear, his compositions that are read by his classmates, or his letters to friends who are known to have pride in good spelling, all give good opportunities for developing a spelling consciousness and a desire for good spelling. It is asserted also by a number of teachers that the use of a typewriter in writing compositions leads to carefulness in spelling.

As I close the writing of this plan, an investigation made by Mr. W. H. McFarland, of the University of Iowa, comes to my attention. The investigation is in the form of a test to determine the "Relation between Spelling Judgment and Spelling Ability."[1] A number of spelling tests were given, using the following plan:

> If you are positive you are spelling a word right, mark after it (P); if you are fairly positive, mark it (F); if you are doubtful, mark it (D); or if you are sure you cannot spell the word or are spelling it wrong, mark it (X).

On the basis of the results of the test the writer concludes:

> A child does not usually know when he can spell a word and when he cannot. Too many words marked (P) and (F) are misspelled to warrant the statement that what one needs in spelling is a conscience and a dictionary. The percentage of words marked (D) or (X) is so large that it should be sufficient argument against taking any chances of spelling words so marked. Here the conscience and the dictionary apply. At the risk of overrepetition, it should be pointed out again that to say when one is not sure of the spelling of a word he should look it up, is a different thing from saying that one's judgment as to the correctness of spelling is even remotely reliable.
>
> So great a percentage of the misspelled words occur when the pupil is positive he is spelling them correctly that the "conscience and dictionary" scheme cannot be relied upon. In the case of the university students where 51.7 per cent of the misspelled words were marked (P), it is evident that their spelling can be improved only by drill on the specific words, during the spelling of which their conscience forsakes them.

Mr. McFarland's experiment is an interesting one, but I cannot agree that the results of the experiment justify his conclusions. For example, if a large part of the incorrectly spelled words were checked as doubtful by the students, how can it be said that other incorrectly spelled words not doubted proves that one's judgment as to the correct spelling of words is not "even remotely reliable"?

[1] *Midland Schools, A Journal of Education*, September, 1916, pp. 19–21.

The fact that the university students marked (P) 51.7 per cent of misspelled words only shows, if it shows anything, that a spelling consciousness was not developed in the students when they first learned to misspell these words and that years of incorrect spelling habits have increased the difficulty for a spelling consciousness to effect the desired changes. In this connection it is interesting to note that the pupils of the Iowa City Academy marked (P) only 25.6 per cent of the misspelled words, the eighth and seventh grades of the Iowa City Grammar School marked (P) 32.8 per cent and 34 per cent, respectively, of the misspelled words, while the sixth and fifth grades of the University Elementary School marked (P) only 37.7 per cent and 16.2 per cent, respectively, of the misspelled words. These figures seem to show that a spelling consciousness is effective and that it is more effective with the pupils of the lower schools than with the students of the university.

Again, the use of the mark (F), although meaning that the pupils were "fairly positive" that they had spelled certain words correctly which in reality they had misspelled, really registers a doubt regarding the correct spelling of those words, and all spelling of words thus marked would according to our plan be classed as doubtful and would therefore call for verification. The use of the marks (F), (D), and (X) express different degrees of doubt in the spelling of words. By summing up the percentages of the three degrees of doubt, we find that the fifth-grade pupils doubted correctly 83.3 per cent of the misspelled words; those of the sixth grade, 61.25 per cent; those of the seventh grade, 66.5 per cent; those of the eighth grade, 67.2 per cent; those of the academy, 74.2 per cent; and those of the university, 48.2 per cent. These percentages show, again, that the pupils of the lower schools were more accurate in their doubts in misspelled words than were the university students. Of course, the university students were better spellers than the pupils of the lower schools, but the figures seem to show that the spelling consciousness of the former was not as effective in helping them to detect misspelled words as was that of the latter.

Again, the writer's conclusion that, because the spelling consciousness was not on the whole accurate in the single tests given

it cannot therefore be made effective in improving spelling, seems a bit hasty, for a lack of accuracy in spelling consciousness would certainly suggest a need for its improvement.

If critical conscious processes are not important in forming correct spelling habits, it is an exception to what is generally held to be the relation of conscious direction to habit formation.

Careful use of our plan for developing a spelling consciousness, checked up by frequent standard spelling tests, should determine the value of a spelling consciousness and whether or not a spelling consciousness can be developed.

REFERENCES

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THE MOTIVATION OF SCHOOL WORK[1]

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While extended use of the word "motivation" is reasonably recent, dating with Dr. Dewey and others some twelve years ago, yet the spirit of motivation was fully anticipated by Rousseau, Pestalozzi, Froebel, and, in fact, almost every educational writer of note in modern times. The motivation of school work for children means that the child, his needs, and his interests are to be taken into consideration so fully in the organization of school work that school tasks will no longer appear as tasks imposed by an outside agency, but as problems which the child himself is eager and anxious to solve. That such a reorganization of school work is possible has been fully demonstrated. Dewey's demonstration in the elementary school was crude in many respects, because it was the first groping in the dark to find a better way. However, all must recognize that Dewey was absolutely right in recognizing the child as the logical center for the organization of school work. Many teachers have since demonstrated that from the standpoint of complete and logical information there is no loss, but an actual gain, through the use of the principle of motivation. For instance, a sixth-grade teacher in one of the large school systems of Illinois organized her language work entirely from the standpoint of children's interests and was careful to undertake nothing which was not thoroughly motivated from the child's standpoint.[2] As the year's work was nearing completion, she checked up by the course of study to see how fully the requirements of the language

[1] *The Motivation of School Work.* By H. B. & G. M. Wilson (Houghton, Mifflin Co., 1916). [The volume on motivation published by Professor Wilson and Superintendent Wilson was reviewed in the October number of this *Journal.* Professor Wilson contributes this article as supplementary in a measure to some of the statements made in that review.—EDITOR.]

[2] *Ibid.*, p. 98.

work for that grade had been met, having in mind to give the last month, if necessary, to details not covered by the motivated work. This seemed a reasonable procedure, but she was surprised to find that she had not only covered all of the specified details in language work for the grade, but had included, of necessity, a great many details called for in upper grades. It was apparent upon review of her year's work that the zeal of the children in successfully accomplishing projects in which they were more or less personally interested had made the mastery of technical difficulties an easy matter. Technical difficulties naturally appeared relatively small, because they were subordinated to the larger undertakings, such as writing letters of request and appreciation, brief articles for the school paper, dramatizations for special programs, the preparation of a special booklet which was later used as a gift as well as an illustration of the pupil's own work, etc.

In short, motivation requires the psychological rather than the logical organization, but in the final analysis there is no loss whatever in the amount of systematic knowledge which is *mastered* by the child. Note that the word "mastered" is in italics, and this should mean a thorough, sympathetic, appreciative understanding, an understanding sufficient to enable the child to use the material. We know that a great deal of school work has been simply the mouthing of words without mastery to the point of even a meager understanding. Dr. Judd has taught us that the child as well as the adult promptly forgets any information which is not used. This is doubtless one of nature's safeguards. Most of us would be helpless to do any thinking if we had to carry about with us all of the useless information which we had at various times attempted to master.

Scientific subject-matter is the common defense of lazy teachers. It is a little easier for mature people (I will not call them teachers) to get a subject logically organized and then to think only of subject-matter, neglecting entirely the child and his interests. The proper procedure is to consult the child, his interests and problems, get a point of contact which is vital, and then expect skilful teaching to develop the essential points, reducing them to logical form after interest has been developed and need is clearly in evidence. This

is the type of procedure used by the language teacher above mentioned. There was no loss, but an actual gain in subject-matter, without counting the gain to the children in the enjoyment of worth-while activity.

Scientific subject-matter has been characterized as the steam-roller of education. We appreciate this much more fully now than we did before the epoch-making studies of Thorndike and Strayer with reference to the elimination of children from the upper grades. It is quite likely that the revelation made by these studies has done more than anything else to make the logically minded pedagogue realize that it is simply a matter of necessity that the child be given consideration. What does it profit a teacher if he gain the whole kingdom of knowledge but lose the child in the process? The discovery of the fact that only an average of eight children out of one hundred stayed in school to the end of the fourth year of high school, and that less than forty out of one hundred completed the eighth grade, taken along with the Dewey doctrine of interest, the movement for motivation, and the emphasis upon the child as the true center of schoolroom effort, has doubtless made a change. We hope so, and we should soon have another extended study similar to the one by Dr. Strayer to see whether or not conditions have improved. Isolated studies indicate that there is improvement and that the children are being retained in school better. Further improvement must come through a better selection of subject-matter and better methods of teaching.

The emphasis on motivation of school work is in large measure the positive side of the elimination movement given emphasis by Dr. Frank M. McMurry and others. It was at the national meeting of superintendents in 1904 that Dr. McMurry laid down his principles for the elimination of subject-matter which set all of us to thinking. The requirement that the work be motivated is one of the best ways of eliminating useless material. If it cannot be made to appeal to the child, if it cannot be organized around his needs and interests, if it cannot be *motivated*, it is quite likely that it should be omitted entirely. We are confident, therefore, that the movement for the motivation of school work will continue to

increase in favor. It does *subordinate* the logical demand of subject-matter. Notice, however, that the word "subordinate" is used. It *does not neglect* it, and there is accumulating experience that even from the standpoint of logical subject-matter there is a gain through an attempt thoroughly to motivate the work. The chief defense of motivation, however, is that it exalts the child, it makes the child the true organizing center, it seeks to teach him in his environment, organizing the work around problems which appeal to him, which connect up with life and society around about him, and which are more likely, therefore, to function in the broadest sense of the term; that is, to function, not only at the time, but in the life of the child after he leaves school.

Notice one other illustration of motivated work. An eighth-grade class in arithmetic took as a special problem to receive attention one day each week throughout a semester, the buying of a lot and the building of a house.[1] This problem was selected by the class as one likely to be as useful as any other which could be chosen. They realized in a sensible way that sooner or later each member of the class would be interested in owning a home and that the work would involve practical application of arithmetic. It was necessary that each pupil in the class should locate a lot; get the legal description; get prices on it; find out about street, sidewalk, or other improvement assessments; take an interest in the title, recording of the deed, and, in fact, all of the details which would be involved in the purchase of real estate. It was necessary that the lot be purchased out of money on hand. The class had been divided for purposes of this problem into five groups. For each group there were indicated the age, the salary, the amount of money on hand, and the amount of rent that was being paid. Each member of the class represented himself as the head of a family. He was required to know his capital and his income and to record his expenses. For this purpose the regular expenses of the child's family were taken. He regularly received his salary; paid his grocery bills; paid for coal; paid his church, lodge, and insurance

[1] H. B. and G. M. Wilson, *op. cit.*, p. 165.

dues; and, in fact, kept books for the family, charging the same against his income.

To return now to the problem. After the lot had been purchased, each pupil undertook to draw plans for a house. This involved questions of lighting, heating, bath, etc. It is not necessary to go into details. It is interesting to note, however, that this practical problem not only appealed to the children at the time, but even four or five years afterward when members of that class came together they spoke of their houses and lots. They remembered the locations. They remembered the plans. It was a subject for conversation, and the experience was recalled with keen interest and due appreciation.

There is no doubt at all that this is a type of work which appeals to the child at the time and which he will carry over into later life. But how about the mastery of systematic arithmetic? Did not the pupils fall behind in their other work by taking one day out of each week for the solution of this motivated problem? Fortunately, tests were given previously and at the time in such a way as to answer this question. The pupils lost nothing, but actually gained. They did more work and did it more satisfactorily in four days than they had previously done in five. The motivated problem gave point and purpose to the systematic arithmetic work. The pupils were borrowing money, and needed to understand interest. They were insuring their houses, and wanted to know about fire insurance. They saw the necessity for accuracy in fractions and the fundamentals, and returned willingly to drill in these subjects. From the standpoint, therefore, of mastery of subject-matter, there was no loss. There was some gain. The pupils at the same time were happy and contented and appreciated an opportunity of working on something which appealed to them as worth while. There was constant interest in the class; they looked forward to the day each week on which this special work was taken up. Those who advocate motivated work in arithmetic do not neglect drill, the textbook, or logical subject-matter. But they attempt to get adequate motive for drill before it is undertaken; they make the textbook a tool and a servant, useful and indispensable; and they

organize the subject-matter when the pupil realizes the usefulness and convenience of the logical arrangement. These are important considerations in good teaching. But they should be properly subordinated to the child and his interests. Teachers are gradually developing the teaching technique required by motivated school work.

BOOKS RECEIVED

LITTLE, BROWN & CO., BOSTON

The Rhyme and Story Primer. By ETTA A. and MARY F. BLAISDELL. Cloth. Illustrated. Pp. 115. $0.32.

Workmanship in Words. By JAMES P. KELLEY. Cloth. Pp. 333. $1.00.

MACMILLAN, NEW YORK

Agricultural Arithmetic. By W. T. STRATTON and B. L. REMICK. Cloth. Illustrated. Pp. 239. $0.50.

Farm Spies: How the Boys Investigated Field Crop Insects. By A. F. CONRADI and W. A. THOMAS. Cloth. Illustrated. Pp. 165. $0.50.

A Manual of Physical Training and Preparatory Military Instruction. By F. A. KUENZLI and HENRY PANZER. Cloth. Illustrated. Pp. 298. $1.25.

A Child's Book of Holiday Plays. By FRANCES G. WICKES. Cloth. Illustrated. Pp. 209. $0.50.

Letters of Polly the Pioneer: Written to a Younger Sister and Brother Back East. By STELLA HUMPHREY NIDA. Cloth. Illustrated. Pp. 182. $0.50.

The Way of the Mountains. Pp. 277. $0.65.

The Way of the Stars. Pp. 272. $0.65.

The Way of the King's Palace. By E. HERSHEY SNEATH, GEORGE HODGES, and HENRY HALLAM TWEEDY. Cloth. Illustrated. Pp. 284. $0.75.

PUTNAM, NEW YORK

Converging Paths. By E. T. CAMPAGNAC. Cloth. Pp. 113. $0.75.

The Purpose of Education. By ST. GEORGE LANE FOX PITT. Cloth. Pp. 144. $0.75.

Scientific Method in Schools: A Suggestion. By W. H. S. JONES. Paper. Pp. 36. $0.30.

WORLD BOOK CO., YONKERS-ON-HUDSON

Algebra Review. By CHARLES H. SAMPSON. Cloth. Pp. 41.